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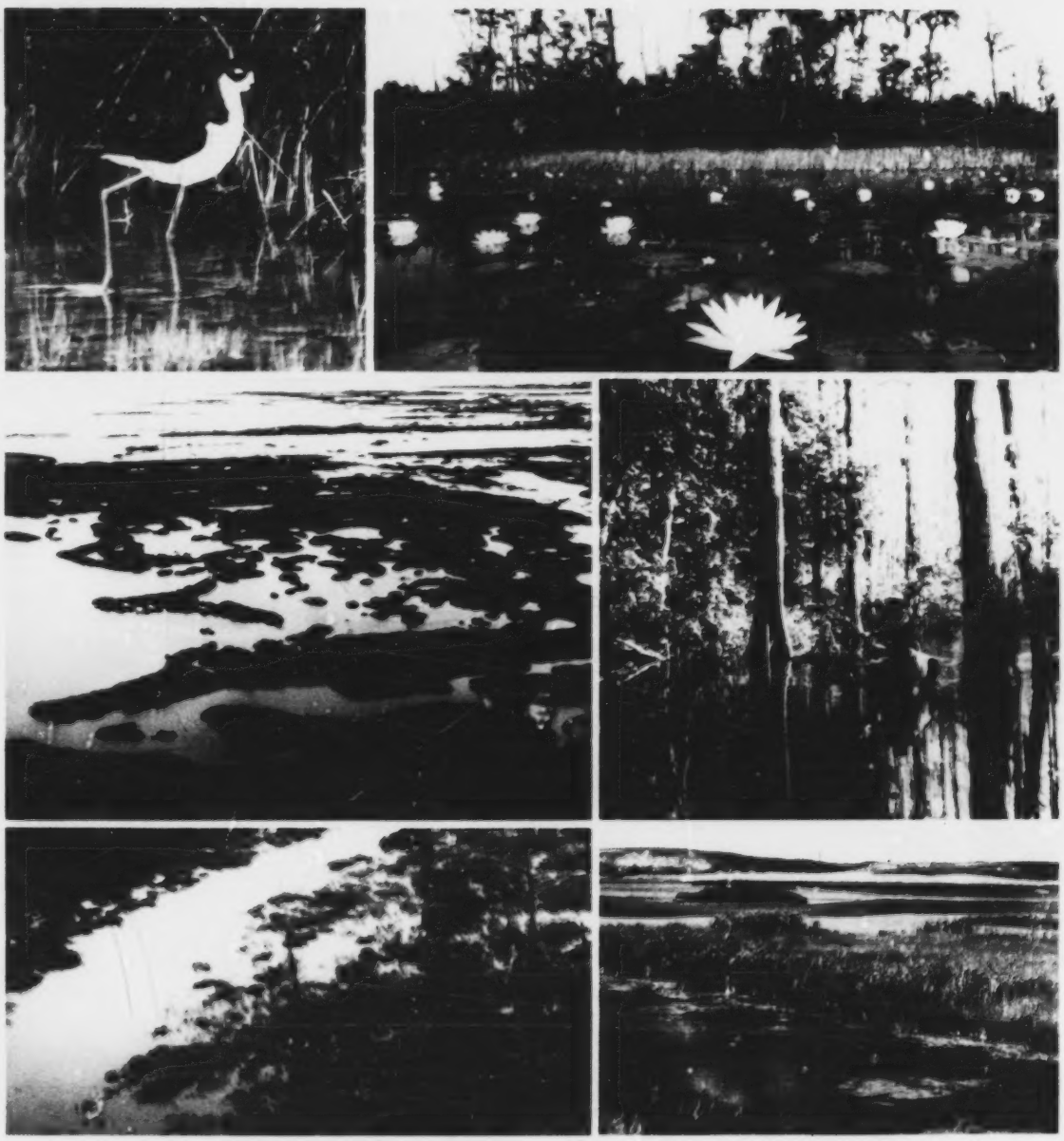
NATIONAL WETLANDS PRIORITY CONSERVATION PLAN



U.S. Department of the Interior
Fish and Wildlife Service
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United States Department of the Interior

FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240

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Note to the Reader:

Enclosed is the National Wetlands Priority Conservation Plan (Plan), which is mandated by P.L. 99-645, the Emergency Wetlands Resources Act of 1986. The Plan was developed by the Department of the Interior after consultation with the Environmental Protection Agency, the Secretary of Commerce, the Secretary of Agriculture, the executive officer of each State, and environmental groups.

The Plan provides the framework, criteria, and guidance for identifying wetlands warranting priority attention for Federal and State acquisition using Land and Water Conservation Fund appropriations. Its primary purpose is to help decision-makers focus their acquisition efforts on the more important, scarce, and vulnerable wetlands in the Nation. However, it can also be used by the private sector and local, State, and Federal agencies to identify wetlands warranting protection through measures that do not require land acquisition. The Plan will also help the States meet the Emergency Wetland Resources Act's requirement to address wetlands as an important outdoor recreation resource.

UNITED STATES DEPARTMENT OF THE INTERIOR

NATIONAL WETLANDS PRIORITY CONSERVATION PLAN

PREPARED BY

U.S. FISH AND WILDLIFE SERVICE

APRIL 1989

PREFACE

We now know things about wetlands that we should have known decades ago. Of course, we knew that they provide important habitat for waterfowl and other wildlife resources. However, we are only now coming to realize the importance of wetlands for enhancing water quality, providing water supply, and serving as natural means of flood and erosion control. They also contribute significant recreational and commercial benefits that enhance the Nation's economy.

Historically, wetlands have had very negative connotations in our thinking and in our vocabulary. Swamps, for example, have conjured up images of impenetrable wastelands, places where people get "bogged down." We have also associated wetlands with mosquitos, malaria, alligators and snakes.

These negative perceptions have found their way into our national public policies as well. As one consequence of the perception of wetlands as wastelands, the Federal Government has promoted the loss or alteration of wetlands. The Swamp Land Acts of 1849, 1850 and 1866 provide an early example. These Acts gave away Federal lands in certain States on the condition that they be drained.

Of the estimated 215 million acres of wetlands existing in the conterminous United States at the time of European settlement, only 94 million acres (44 percent) are estimated to remain. Wetlands losses still continue at a level estimated at several hundred thousand acres each year.

Most wetlands in the United States (74 per cent) occur on private property. The protection and creative management of wetlands, however, requires concerted, cooperative efforts on the part of:

- the Federal government,
- State and local governments,
- private organizations, and
- individuals.

Working together, State and local governments, organizations and individuals can reinforce and supplement the legal and administrative framework now established at the Federal level for wetlands protection. This framework includes provisions of the River and Harbor Act of 1899, Fish and Wildlife Coordination Act of 1958, as amended, Clean Water Act

of 1977, as amended, Coastal Zone Management Act of 1972, Watershed Protection and Flood Prevention Act of 1954, as amended, Coastal Barrier Resources Act of 1982, Federal Power Act, as amended, Food Security Act of 1985, Emergency Wetlands Resources Act of 1986, and Executive Orders 11990 and 11988 on Protection of Wetlands and Floodplain Management, respectively.

State and local governments are encouraged to educate the public about wetland values and services and establish a policy designed to encourage conservation and enhancement of wetlands. A wetland policy would promote sound thinking and planning on the part of private entities and those charged with protecting public resources.

In recognition of the important values associated with wetlands, including significant economic benefits, State and local governments also may offer tax incentives, such as preferential property tax assessments or special tax deductions, to landowners who protect their wetlands through deed restrictions or conservation easements. Donation of wetlands to conservation organizations or governmental entities also may qualify landowners for substantial tax benefits. Or, individuals could contribute dollars to non-profit organizations so that their resources could be pooled for wetland protection or purchase.

State and local entities may want to evaluate existing programs to ensure that they are not promoting wetland losses, through such programs as tax deductions for wetland drainage or funding for economic development projects located in wetlands.

The full spectrum of wetland protection options not requiring acquisition of lands should be cooperatively evaluated by the private sector and local, State and Federal governments before considering land acquisition as the ultimate solution to wetland protection. Acquisition of an interest in wetlands is an important, but costly, option for protecting wetlands. And, even with full public control over the land, it may not guarantee absolute protection to the wetland. The present Administration's policy focuses on protecting our Nation's wetlands through measures that do not require use of appropriated funds for fee title acquisition of lands.

Technical assistance and educational materials are available from Federal and State agencies and national conservation groups to assist in this effort.

In 1986, the Emergency Wetlands Resources Act was enacted to promote the conservation of our Nation's wetlands by intensifying cooperative efforts among private interests and local, State and Federal governments for the conservation, management and/or acquisition of wetlands. Among a number of provisions in this Act designed to protect wetlands of the United States, section 301 requires the Secretary of the Interior to establish a National Wetlands Priority Conservation Plan to assist decisionmakers in identifying the types and locations of wetlands, and

interests in wetlands (e.g., fee acquisition, deed restrictions) warranting consideration for Federal and State acquisition.

The National Wetlands Priority Conservation Plan provides general direction and guidance from the national level and allows the States and appropriate Federal agencies flexibility, within the limits of the generic criteria specified in the Emergency Wetlands Resources Act, to develop step down plans that reflect information or data specific to less than national level planning areas. State level acquisition planning refinements are appropriate to focus attention on documentable issues of wetland loss, scarcity, threat and values that are not necessarily discernible at the national level.

This National Wetlands Priority Conservation Plan has been developed to comply with the specific requirements of section 301 of the Emergency Wetlands Resources Act and only applies to wetlands that would be acquired by Federal agencies and States using Land and Water Conservation Fund appropriations. The Department of the Interior, however, is highly supportive of cooperative efforts among private interests and local, State and Federal governments to implement options other than acquisition of lands to conserve and protect wetlands.

The Department encourages the private sector and all local, State and Federal agencies, to use this National Wetlands Priority Conservation Plan as a decisionmaking tool to assist in identifying wetlands warranting priority consideration for protection, using whatever measures may be available in addition to acquisition of a fee title interest in wetlands.

Implementation of the National Wetlands Priority Conservation Plan will result in development of lists of wetland sites warranting priority consideration for acquisition. When a wetland site appears on a list, it does not mean that the wetland necessarily will be acquired; rather, that the site qualifies for acquisition consideration. Any subsequent decision to purchase property must rely on additional data, policies and conditions that are not a part of the National Wetlands Priority Conservation Plan.

Any listing of wetlands for acquisition consideration has no direct bearing on Federal regulatory programs or the evaluation of wetlands for regulatory purposes. Moreover, only through the cooperative efforts of all governmental agencies, private organizations and individuals can public wetland resources be adequately protected. In this regard, lists of wetlands for acquisition consideration may be useful to assist any entity in identifying wetlands warranting priority attention for protection, management, restoration and/or enhancement using non-acquisition measures.

EXECUTIVE SUMMARY

As a means to further promote the conservation of our Nation's wetlands, Congress enacted the Emergency Wetlands Resources Act (Act) of 1986 (Public Law 99-645). Under the provisions of the Act, Congress found that wetlands are nationally significant resources that contribute to our economy, food supply, water supply and quality, flood control, and fish, wildlife and plant resources. However, these resources have been significantly affected by human land and water use activities, and recognition of the value of wetlands has developed slowly. FWS estimates that less than 45 percent of the original wetlands in the conterminous United States remain. Wetlands losses are still continuing, perhaps at a level as high as 450,000 acres annually.

Under the Act the Department of the Interior is directed by Congress to develop a National Wetlands Priority Conservation Plan that identifies the locations and types of wetlands, and interests in wetlands, that should receive priority attention for wetland acquisition projects by Federal and State agencies using Land and Water Conservation Fund appropriations. The Department of the Interior has been given authority to acquire wetlands based on broad consideration of their value. The primary purpose of the National Wetlands Priority Conservation Plan is to assist decisionmakers in focusing their acquisition efforts on the more important, scarce and vulnerable wetlands in the Nation; however, it also can be used by the private sector and local, State and Federal agencies to identify priority wetlands warranting protection through measures not requiring land acquisition.

The Fish and Wildlife Service has prepared this National Wetlands Priority Conservation Plan for the Department of the Interior. The National Wetlands Priority Conservation Plan provides a planning framework, criteria and guidance intended to meet the requirements of section 301 of the Emergency Wetlands Resources Act. Criteria to be considered in determining acquisition priorities include functions and values of wetlands, historic wetland losses and threat of future wetland losses. In general, wetlands given priority consideration for acquisition will be those that provide a high degree of public benefits, that are representative of rare or declining wetland types within an ecoregion, and that are subject to identifiable threat of loss or degradation. Implementation of the National Wetlands Priority Conservation Plan will result in development of plans that list wetland sites warranting priority consideration for Federal and State acquisition. Wetlands assessment threshold criteria have been developed to assist users of the National Wetlands Priority Conservation Plan in identifying wetland sites that qualify for such priority.

The Emergency Wetlands Resources Act also requires consistency between the Statewide Comprehensive Outdoor Recreation Plan process and the National Wetlands Priority Conservation Plan. The National Wetlands Priority Conservation Plan will assist the States in meeting the requirement under the Emergency Wetlands Resources Act that wetlands are addressed as an important outdoor recreation resource. States are encouraged to develop State wetlands priority plans as implementing documents that address specific wetland acquisition priorities within the State.

The National Wetlands Priority Conservation Plan represents only one tool to be used for the protection of valuable wetland ecosystems. Only through the continued and coordinated efforts of all interests, public and private, can wetland resources be adequately protected for future generations.

NATIONAL WETLANDS PRIORITY CONSERVATION PLAN

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ABBREVIATIONS

Act	*Emergency Wetlands Resources Act of 1986*
BLM	*Bureau of Land Management*
Concept Plan	*Fish and Wildlife Service Regional Wetlands Concept Plan*
Convention	*Convention on Wetlands of International Importance Especially as Waterfowl Habitat*
Corps	*U.S. Army Corps of Engineers*
Department	*Department of the Interior*
EPA	*U.S. Environmental Protection Agency*
ESIS	*Endangered Species Information System*
Farm Bill	*Food Security Act of 1985*
FmHA	*Farmers Home Administration*
HEP	*Habitat Evaluation Procedures*
International List	*List of Wetlands of International Importance According to Convention Criteria*
LAPS	*Land Acquisition Priority System*
MB	*Migratory Bird Target*
NSW	*Nationally Significant Wetlands Target*
NSWH	*Nationally Significant Wildlife Habitat Target*
SE	*Endangered Species Target*
LWCF	*Land and Water Conservation Fund*
NEPA	*National Environmental Policy Act*
NPS	*National Park Service*
Waterfowl Plan	*North American Waterfowl Management Plan*
NMFS	*National Marine Fisheries Service*
NWI	*National Wetlands Inventory*
NWPCP	*National Wetlands Priority Conservation Plan*
NWR	*National Wildlife Refuge*
SCORP	*Statewide Comprehensive Outdoor Recreation Plan*
Secretary	*Secretary of the Interior*
Service	*U.S. Fish and Wildlife Service*
Threshold Criteria	*Wetlands Assessment Threshold Criteria*
USDA	*U.S. Department of Agriculture*
USGS	*U.S. Geological Survey*

A. INTRODUCTION

This National Wetlands Priority Conservation Plan (NWPCP) has been prepared by the United States (U.S.) Fish and Wildlife Service (Service) on behalf of the Department of the Interior (Department) in response to section 301 of the Emergency Wetlands Resources Act of 1986 (Act).

The NWPCP provides a process that identifies wetlands that should receive priority attention for Federal and State acquisition. The new authority significantly broadens the Department's wetlands acquisition mandate to include consideration of all values of wetlands in making acquisition decisions.

The NWPCP is intended to assist Federal, State and local agencies in making wetland acquisition decisions when Land and Water Conservation Fund appropriations are used. The NWPCP can also assist other users, including governmental agencies, conservation groups or private individuals, in acquisition planning that complements Federal and State efforts to set priorities for wetlands protection through acquisition.

The document discusses wetland values and losses and provides evaluation criteria to be used in making wetland acquisition determinations. Guidance is also provided on the use of the NWPCP and its relationship with other legislation, plans, policies and programs.

Wetland protection and use are controlled or managed by regulation, policy guidance or acquisition of interests in wetlands. No single legislative authority addresses all the facets of wetland protection or use. Ways and means of wetland protection that do not require acquisition include Federal, State and local laws, tax code provisions and regulatory programs. The primary regulatory mechanism for Federal involvement in the use of wetlands is section 404 of the Clean Water Act. However, wetland protection afforded by this program is not comprehensive and additional losses of the Nation's wetlands continue.

Wetland acquisition, therefore, often may be a desired option to best serve the public interest when other means for wetland protection or use have been less effective. Acquisition of an interest in a wetland (e.g., obtaining public access) also may be desirable to protect the wetland. Additionally, acquisition of restorable wetlands can serve to replace or improve some of the functional values of wetlands which have been lost to society.

B. PURPOSE AND SCOPE

The NWPCP provides a planning framework, criteria and guidance to determine the locations and types of wetlands, and interests in wetlands, that should receive priority consideration for Federal and State acquisition. The purpose of the NWPCP is to assist decisionmakers in focusing their acquisition efforts on the more important, scarce and vulnerable wetlands in the Nation. The NWPCP was not intended to be a comprehensive wetland conservation plan. The authorized name for the NWPCP does not include "acquisition" in the title, but the Act specifies that the purpose of the NWPCP is priority planning for wetland acquisition.

Implementation of the NWPCP will result in development of plans or modifications to existing plans that list wetland sites warranting priority consideration for Federal and State acquisition. The NWPCP will also assist the States in complying with section 303 of the Act, which requires that each Statewide Comprehensive Outdoor Recreation Plan (SCORP) address wetlands within that State as an important outdoor recreation resource.

As a planning document, this NWPCP:

1) establishes assessment criteria concerning wetland functions and values, historic wetland losses, and threat of future wetland losses;
2) addresses other important wetland acquisition considerations;
3) assists States in complying with section 303 of the Act;
4) assists in identifying (listing) wetland sites warranting consideration for Federal and State acquisition; and
5) does not reduce or replace the implementation of other wetland protection or regulatory programs as established by Federal, State or local laws.

C. AUTHORITY

The Emergency Wetlands Resources Act of 1986 (Public Law 99-645) was enacted to promote the conservation of our Nation's wetlands in order to maintain the public benefits they provide and to help fulfill migratory bird treaties and conventions by: (1) intensifying cooperative efforts among private interests and local, State and Federal governments for the

management and conservation of wetlands; and (2) intensifying wetland protection efforts through acquisition in fee, easements or other interests and methods by local, State and Federal governments and the private sector. The Act also addresses the importance that wetlands have for fish and wildlife resources, water supply and quality, flood damage reduction and outdoor recreation. Major provisions of the Act are summarized as follows:

- Authorizes admission permits (entrance fees) at designated refuges to provide revenue for refuge operations and the Migratory Bird Conservation Fund.
- Raises the price of the Migratory Bird Hunting and Conservation Stamp.
- Requires the Department to establish a NWPCP which specifies the types and locations of, and interests in, wetlands that should be given priority for Federal and State acquisition.
- Amends the Land and Water Conservation Fund (LWCF) Act to require that for Fiscal Year 1988 and thereafter, each SCORP specifically addresses wetlands.
- Authorizes the Secretary of the Interior (Secretary) to purchase wetlands or interests in wetlands consistent with the NWPCP.
- Directs the Department/Service to continue the National Wetlands Inventory Project (NWI) and update the wetlands status and trends report.
- Requires the Department to report to Congress on the status, condition and trends of wetlands and effect of Federal programs on wetlands in selected regions of the United States.
- Authorizes the acquisition and management of the Bayou Sauvage Urban National Wildlife Refuge in Louisiana.

Section 301 of the Act directs the Secretary to establish and periodically review and revise a NWPCP. Section 301 is reproduced from the Act below:

"SEC. 301. NATIONAL WETLANDS PRIORITY CONSERVATION PLAN.

(a) IN GENERAL - The Secretary shall establish and periodically review and revise, a national wetlands priority conservation plan which shall specify, on a region-by-region basis or other basis considered appropriate by the Secretary, the types of wetlands and interests in wetlands which should be given priority with respect to Federal and State acquisition.

(b) CONSULTATION - The Secretary shall establish the plan required by subsection (a) after consultation with-

(1) the Administrator of the Environmental Protection Agency;

(2) the Secretary of Commerce;

(3) the Secretary of Agriculture; and

(4) (the chief executive officer of) each State.

(c) FACTORS TO BE CONSIDERED - The Secretary, in establishing the plan required by subsection (a), shall consider :

(1) the estimated proportion remaining of the respective types of wetlands which existed at the time of European settlement;

(2) the estimated current rate of loss and threat of future losses of the respective types of wetlands; and

(3) the contributions of the respective types of wetlands to-

(A) wildlife, including endangered and threatened species, migratory birds, and resident species;

(B) commercial and sport fisheries;

(C) surface and groundwater quality and quantity, and flood control;

(D) outdoor recreation; and

(E) other areas or concerns the Secretary considers appropriate."

For the purpose of this NWPCP, types of wetlands will be based on the wetlands classification system and terminology developed by the Service (Cowardin *et al.*, 1979). The 1986 Report of the U.S. Senate Committee on Environment and Public Works (Senate Committee Report) on the Act indicates that "region-by-region" refers to natural provinces rather than political jurisdictions; therefore, the ecoregion classification by Bailey (1978) is adopted for use in the NWPCP. (The Bailey classification system was used because it is comparable to Hammond's (1970) physical subdivisions of the U.S., the system used to establish boundaries for data collection in the Service's 1954-74 wetlands trends study.) "Interests in wetlands" refers to the financial interest, e.g., fee title acquisition or less than fee interests, such as conservation easements. Refer to section J for complete definitions of terms.

Section 303 of the Act states that for Fiscal Year 1988 and thereafter each SCORP shall be revised to specifically address wetlands within that State as an important outdoor recreation resource as a prerequisite to approval for LWCF Act funding of recreational projects by the Secretary. Alternatively, a State may submit a State wetlands priority plan, developed in consultation with the State fish and wildlife agency and consistent with the NWPCP, as an addendum to the existing SCORP.

Section 303 of the Act also amends the LWCF Act to authorize wetlands specifically as suitable replacement for LWCF lands slated for conversion to other uses. Thus, wetlands are considered to be of reason-

ably equivalent usefulness with the property proposed for conversion regardless of the nature of that property. For example, a city may wish to use a portion of a park acquired and/or developed with LWCF monies for a non-outdoor recreation use such as city offices. Section 303 permits the acquisition of wetlands of at least equal fair market value and of reasonably equivalent location to be used as replacement lands.

D. CONSULTATION

As specified in section 301 of the Act, the NWPCP is being developed in consultation with the Administrator of the Environmental Protection Agency (EPA), the Secretary of Commerce, the Secretary of Agriculture and the chief executive officer of each State. The NWPCP also is being coordinated with the U.S. Army Corps of Engineers (Corps) and environmental groups.

E. WETLANDS ASSESSMENT CRITERIA

The following discusses the minimal wetlands assessment criteria that must be considered in evaluating wetlands for acquisition potential and background information supporting the selection of these criteria.

Section 301(c) of the Act directs the Department in establishing the NWPCP to consider specific factors. These factors may be summarized as: (1) historic wetland losses, (2) threat of future wetland losses, and (3) wetland functions and values. Wetlands assessment criteria have been established for each of these major categories to assist Federal and State decisionmakers in determining which types and locations of wetlands warrant priority attention for acquisition. In summary, priority consideration for acquisition will be given to:

1) wetland types that are rare or have declined within an ecoregion (one half or more of the wetland site consists of rare or declining wetland types);
2) wetland sites subject to identifiable threat of loss or degradation; and
3) wetland sites with diverse and important functions and values and/or especially high or special value for specific wetland functions.

At a minimum, proposed wetland acquisition projects should have been selected based on evaluation according to all three of these generic criteria. Minimum standards for these criteria are indicated in the Wetlands Assessment Threshold Criteria (Threshold Criteria) located in Appendix 1. The Threshold Criteria are used in determining which wetland sites (see definitions) qualify for Federal and State consideration for acquisition. Those wetlands meeting the Threshold Criteria warrant priority consideration for Federal and State acquisition. This systematic evaluation of wetland sites will help achieve national consistency and comparability between wetlands identified for acquisition consideration.

States developing wetlands components to SCORPs, including State Wetlands Priority Plans and their own or modified wetlands assessment threshold criteria or methodologies, should ensure that all three of the criteria mentioned above are addressed in their acquisition planning process and documents. States also should ensure that sufficient information will be available to allow a Federal or State decisionmaker to determine that proposed wetland acquisitions meet each criterion mentioned above.

The NWPCP contains only the threshold standards for each criterion. Users who need to rank various wetlands should develop a weighted scoring system taking into account the priorities and needs of the agency considering acquisition. The NWPCP has intentionally avoided development of a weighted scoring system for all criteria. This is because a single system will not serve all the differing applications of the NWPCP by various users. For example, the Service uses a Land Acquisition Priority System (LAPS) to rank and compare various properties proposed for acquisition, including wetlands. Thus, the NWPCP does not stand alone as an acquisition justification document.

The Threshold Criteria address wetland losses, wetland threats and wetland functions and values, which are fully discussed subsequently.

1. WETLAND LOSSES

Criterion

- Wetland types to be given priority consideration for acquisition are those that are rare or have declined within an ecoregion.

Discussion

The following guidance will assist in applying this criterion:

- In general, palustrine emergent, forested and scrub-shrub wetland types and coastal vegetated wetlands (estuarine intertidal, emer-

gent, forested and scrub-shrub and marine intertidal) will usually warrant priority consideration for Federal and State acquisition. Documentable information (see definitions section) may be used to support giving priority to other wetland types.

- o All wetland types that are rare or have declined within an ecoregion may be considered.
- o An ecoregion sustaining a high or moderate Index of Loss (see definitions) could warrant priority consideration over an ecoregion having a low Index of Loss of wetlands present in 1954 at the start of the wetlands trends study.
- o Statistically valid data or documentable information may be used to support priority for a specified wetland type(s) within an ecoregion, a State or portion of a State due to rarity or wetland losses prior to, during or after the wetlands trend study, if NWI trends study data do not accurately portray the wetlands trends or Index of Loss within a State, portion of an ecoregion or other priority planning area.

Wetland losses are continuing throughout the U.S. in spite of increased Federal, State and local efforts to protect these areas. Of the estimated original (i.e., at the time of European settlement) 215 million acres of wetlands that existed in the conterminous U.S. (Roe and Ayres, 1954), less than 95 million acres (44 percent) probably remain. For example, between 1954 and 1974, about 9 million acres of wetlands were lost (Frayer *et al.*, 1983). Net annual wetland losses during this period averaged 458,000 acres (440,000 acres inland and 18,000 acres coastal). About 396,000 acres/year (87 percent) of this estimated annual wetland loss has been attributed to agricultural conversion. Wetland losses were also due to residential and commercial developments, ports and harbors, roads, water development projects, erosion and inundation, mining for mineral resources, livestock grazing and other land and water use activities.

Destruction or degradation of wetlands eliminates or reduces some of their values. Drainage of wetlands, for example, eliminates or reduces many of the beneficial effects of the wetlands on water quality and may directly contribute to flooding problems. When wetlands are converted to another use, the general public loses benefits from the wetlands associated with incremental flood, erosion and storm damage control, water quality maintenance, outdoor recreation and fish and wildlife resources; the public also inherits economic liability for correcting problems associated with lost wetland functions. The broad public interest is served when these wetland values are protected.

Diking and draining wetlands for agricultural uses, such as pasture or crop production, may significantly alter wetland functions and values but not convert the wetlands to uplands or non-wetlands. For example, significant wetland uses include muckland farming, row crops, hay, summer vegetables, and blueberry and cranberry cultivation. Drainage and pumping permits crop production during drier summer months but the wetlands are maintained by saturation, inundation and/or flooding

during the wetter winter and spring months. Farmed wetlands may quickly recover functional values without continued use of pumping and dike maintenance. As such, many wetlands in agricultural land uses have high potential for being restored or having their functional values increased.

The Service, under the NWI, studied trends in wetland habitats in the conterminous United States (Alaska, Hawaii, Puerto Rico and U.S. Trust Territories were not included in the study) during the 20-year period between 1954 and 1974 (trends study) to develop information on losses and gains of wetland types (Frayer *et al.*, 1983). The NWI trends study was designed to obtain a high degree of accuracy and precision at the national level. During this study, less emphasis was placed on sub-national levels (e.g., States); thus, information on the location of wetland losses (or gains) is statistically less meaningful at State levels and for certain regions. The NWI trends study did not address the significant reduction in quality of many wetlands.

The trends study did not address all types of wetlands. Marine subtidal and riverine wetlands were not evaluated because of the relatively small expected change in these types. Also, submerged vegetated or aquatic bed wetlands, an essential habitat for commercial and recreational fisheries, were not studied as they could not be reliably mapped. The trends study, however, looked at estuarine subtidal and intertidal non-vegetated wetlands, lacustrine wetlands, and palustrine open water and non-vegetated wetlands, all of which may include aquatic bed wetlands.

Aquatic bed wetlands may be under State ownership and/or State and Federal regulatory jurisdiction in many States, thereby being afforded some level of protection. However, in some States such wetlands may be under private ownership and vulnerable to loss or degradation from dredge or fill projects associated with navigation, marine, gas or oil, or similar projects or activities. Aquatic bed wetlands have diminished substantially in several regions in the U.S. The significant value of this wetland type can not be over-emphasized and priority consideration for acquisition may be warranted based on documentable wetland loss studies.

The riverine system includes wetlands and deepwater habitats contained within a channel except for wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens or; habitats with water containing ocean-derived salts in excess of 5 parts per thousand. However, upland islands or palustrine wetlands may occur within the channel. This system has been modified by man's activities through channelization, dredging, encroaching fills and conversion from natural substrate to concrete. Because of such activities, adjacent or intermixed palustrine wetlands have been lost or degraded.

Riverine wetlands usually are bordered by or intermixed with palustrine wetlands. In many cases, only a narrow band of palustrine wetlands or

riparian vegetation (includes wetland and upland vegetation) may persist along the channel. These remnant wetlands and riparian lands may strongly influence the functional values and integrity of riverine wetlands, particularly the quality of fish and wildlife habitat in the riverine system. Palustrine wetlands and buffering riparian lands adjacent to riverine wetlands, therefore, may warrant special consideration for acquisition, especially in the arid regions of the western U.S. If so, this priority should be substantiated with documentable information.

The trends study showed that during the 1954-1974 period, certain wetland types had high rates of conversion to other land uses in specific regions of the U.S. For example, palustrine forested wetlands in the Lower Mississippi Alluvial Plain (commonly called bottomland hardwoods), palustrine emergent wetlands in the Prairie Pothole Region in the Dakotas and Minnesota, palustrine scrub-shrub wetlands in North Carolina, and estuarine intertidal wetlands in the south and southeast sustained extensive losses during this period. Nineteen States had significant decreases in wetlands over the 20-year period: Alabama, Arkansas, California, Delaware, Florida, Georgia, Illinois, Louisiana, Maryland, Minnesota, Mississippi, Nebraska, New Jersey, North Carolina, North Dakota, South Carolina, South Dakota, Texas and Wisconsin (Frayer *et al.*, 1983).

The national decline of wetlands was dramatic in many States or particular regions since the time of European settlement of the U.S. and prior to the trends study. Significant wetland losses during the late 1800's and early 1900's in 15 States (Alabama, Arkansas, California, Florida, Illinois, Indiana, Iowa, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Ohio, Oregon and Wisconsin) were due to passage of the Swamp Land Acts of 1849, 1850 and 1860 (Shaw and Fredine, 1956). Wetlands in these States were drained for agriculture by constructing levees and drainage ditches. Tiner (1984), citing a number of sources, listed 10 States that probably had lost 50 percent or more of their wetlands or certain types of wetlands prior to 1955: California, Connecticut, Illinois, Indiana, Iowa, Louisiana, Michigan, Minnesota, North Dakota and Ohio.

(a) Losses by Wetland Type

An analysis of trends study data for the 48 states indicates that some wetland types, as described by Cowardin *et al.* (1979), declined significantly, others remained relatively stable and some increased since 1954. Using this information, the wetland types, as shown in Table 1, have been grouped in three categories that correspond with declining, stable and increasing wetland trends.

These data form the basis for establishing the wetland loss threshold in Appendix 1. An upland (non-wetland) cover type category is also included under the wetland loss criterion in Appendix 1 to address all other cover types at a wetland site that are not described under Wetlands

Groups 1-3. To protect the integrity of the wetland system, it is often essential to acquire adjacent or intermixed upland areas.

The Senate Committee Report on the Act provided guidance indicating that acquisition of an interest in wetlands includes adjacent and associated uplands essential to maintaining the values of the wetlands. However, the Act refers specifically to the acquisition of wetlands and it was not intended that former wetlands converted to non-wetlands were to be targeted for acquisition purposes. These areas may have been diked or drained by man for conversion to other uses, such as agriculture. As such, there may be several factors making these sites less viable for acquisition, including landowner opposition to selling the land, high cost per acre for "highly productive" land, and high cost for wetland restoration.

Although the trends study provides the only data useful for a statistical comparison of ecoregions in the U.S. during the 1954-74 period, it is recognized that the data may not accurately portray wetland trends for certain local, State or regional areas. Other historical, recent or detailed information may demonstrate a different trend of wetland loss, stability or increase for a local, State or regional area. When information is available to substantiate trends for various wetland types other than that shown by the NWI trends study, it may be used to support departures from the trends groupings presented in Table 1. For example, the trends data showed that palustrine open water wetlands increased between 1954 and 1974. However, a State may have documentable information showing that generally unmappable wetland types, such as aquatic bed, rock bottom or reef, found within the open water type, decreased significantly and warrant priority consideration for acquisition. Also, wetland types may have been historically rare, such as in the arid regions of the western U.S., so would warrant priority consideration.

(b) Losses by Region

The NWI trends study generated national estimates of wetlands and deepwater habitat acreage for the lower 48 States during the 1950's, the 1970's, and the change for this period. The study also generated State estimates. The study samples were selected within boundaries formed by 35 physical subdivisions described by Hammond (1970), States, and a special coastal strata (see Cowardin *et al.*, 1979, pg. 27) including the marine intertidal category and the estuarine system. The study results are valid at the national level, but the data are not reliable enough to provide statistical significance at the State level.

The national data show that certain ecoregions of the U.S. have lost more of their wetland base acreage (i.e., between 1954 and 1974) than other areas. In this NWPCP, ecoregions are used for an objective comparison of wetland losses among various locations.

Wetlands Group 1 - Declining

The following wetland types experienced a net decline between 1954 and 1974.

Wetland Type	1954-1974	% Change (SE*)
1. Palustrine Emergent	-14.1	(5.2%)
2. Palustrine Forested	-10.8	(3.7%)
3. Estuarine Intertidal Emergent	- 8.3	(8.3%)
4. Marine Intertidal	- 4.9	(57.5%)
5. Palustrine Scrub-Shrub	- 3.5	(56.7%)
6. Estuarine Intertidal Forested & Scrub-Shrub	- 3.2	(93.2%)

Wetlands Group 2 - Stable

The following wetland types were relatively stable between 1954 and 1974.

Wetland Type	1954-1974	% Change (SE*)
7. Estuarine Intertidal Non-Vegetated		+ 0.7 **
8. Estuarine Subtidal	+ 1.4	(14.9%)
9. Lacustrine	+ 2.4	(34.1%)

Wetlands Group 3 - Increasing

The following wetland types increased significantly between 1954 and 1974.

Wetland Type	1954-1974	% Change (SE*)
10. Palustrine - Other Non-vegetated		+45.0 (39.9%)
11. Palustrine Unconsolidated Shore		+51.8 (5.5%)
12. Palustrine Open Water	+89.4	(2.5%)

* The standard error (SE) of each entry expressed as a percentage of the entry.

** Standard error of estimate is equal to or larger than the estimate.

Table 1. Wetland losses or gains by type.

Ecoregions (Bailey, 1978) are a hierarchical classification of areas characterized by distinctive flora, fauna, land forms, climate, vegetation and ecological climax. Ecoregion classification includes biotic and abiotic factors. For the purpose of this NWPCP, ecoregions will be determined from Figure 1, taken from Cowardin *et al.* (1979), page 27. Use of ecoregions allows compilation, comparison and interpretation of data based on biogeographical units rather than on political units (e.g., States).

The EPA's Corvallis Laboratory has modified the Bailey ecoregion classification system for their use in priority planning regarding regulatory protection of aquatic and wetland resources (Omernik, 1987). This new system factors in land use in addition to climate, soils, geology, vegetation and physiography for identifying distinctive ecosystems. Although this system may have advantages for wetland trends studies, it was not available when the trends study was conducted.

An Index of Loss formula was developed by Frayer for use in comparing the magnitude of loss for a wetland type during the 1954-74 study period between ecoregion divisions or other units of interest (e.g., States). The Index of Loss is expressed by the following equation:

$$\frac{(Y - X \times 100)}{N} \times \frac{(Y - X \times 100)}{Y}; \text{ or } \frac{(\text{Unit Loss} \times 100)}{\text{Net National Loss}} \times \frac{(\text{Unit Loss} \times 100)}{\text{1954 Unit Base}}$$

Where, Y = 1954 Unit Base acreage per wetland type and unit area;
X = 1974 Remaining acreage per wetland type and unit area;
Y-X = Unit Loss (e.g., 1954-74 State loss per wetland type); and
N = 1954-74 Net National Loss per wetland type.
Unit = Area of comparison (e.g., ecoregion, State)
Base = Acres of wetlands in 1954 for the unit.

Example: The subtropical ecoregion had 1,000,000 acres of palustrine forested wetlands in 1954 and only 500,000 acres in 1974. The 1954-74 net national loss of this wetland type was 6,000,000.

Y = 1,000,000
X = 500,000 Index of Loss = 417 (high)
Y - X = 500,000
N = 6,000,000

An Index of Loss number (as translated to a high, moderate or low value) was developed by the Service for each non-coastal wetland type experiencing a loss during the 1954-1974 study period: palustrine

emergent, palustrine forested and palustrine scrub-shrub. The coastal vegetated wetland types experiencing losses during the 1954-1974 period (i.e., estuarine intertidal emergent, marine intertidal and estuarine intertidal forested and scrub-shrub wetlands) were not compared with palustrine wetlands. This is because these wetlands only represent about 5 percent of total U.S. estuarine and palustrine wetlands. The Index of Loss numbers generated were not meaningful when compared with palustrine wetlands having a significantly higher base acreage.

The coastal region, or that area along or near the coastline having marine intertidal and estuarine system wetland types, has experienced a significant loss of vegetated wetlands and associated values in the lower 48 States. During the NWI trends study, estuarine wetlands losses were greatest in California, Florida, Louisiana, New Jersey and Texas. Louisiana's coastal marsh losses were mostly due to submergence of coastal wetlands. Dredge and fill development was a significant cause of coastal wetlands losses in California, Florida, New Jersey and Texas. In other coastal areas, urban development was the major cause of wetland loss. In general, declining wetland types in the coastal region warrant priority consideration for protection and Federal and State acquisition.

The Index of Loss results for palustrine emergent, palustrine forested and palustrine scrub-shrub wetland types are listed in Table 2, ranked from highest to lowest losses per ecoregion division. A high Index of Loss indicates a large magnitude of loss, a large percent of wetland base loss or both (as well as their functions and values) during the 1954-74 study period.

The Index of Loss data show that certain ecoregions of the U.S. had substantially higher losses of palustrine wetlands than other ecoregions. These data can be used, if desired, to set national acquisition priorities among various ecoregions. However, it should be recognized that the trends study period data do not reflect wetland trends prior to 1954 or after 1974. Also, the trends study data are not refined enough to show subregional differences within the ecoregion (e.g., high wetland losses occurred within an ecoregion section, although losses were low within the same ecoregion division). For these reasons, decisionmakers should be cautious with their use of the Index of Loss information. States having specific information or data for these periods, or more specific information or data during the trends study period, may use such documentable information to support statements made in a wetland acquisition document indicating estimated levels (e.g., high, moderate, low) of wetland loss by a State or subregion. Such estimates or indices of wetland loss, however, are not directly comparable with the Index of Loss estimates based on trends study data (refer to Table 2).

2. THREAT OF FUTURE WETLAND LOSS

Criterion

- o Wetlands to be given priority consideration for acquisition should be subject to identifiable threat of loss or degradation.

Discussion

Wetlands continue to be threatened with loss or degradation due to such factors as agricultural, commercial and residential development; drainage and filling; road building; water development projects; groundwater withdrawal; loss of instream flows; water pollution; and vegetation removal. During the NWI trends study, agriculture was responsible for 87 percent of the man-induced wetland losses. Residential and commercial development accounted for most of the remaining losses. While some land use activities in wetlands may require a Federal permit in accordance with section 404(a) of the Clean Water Act, the regulatory program has not halted all wetland losses or degradation.

A number of factors influence the type, degree and imminence of threat. Degree of threat addresses the percentage of the wetland's functions and values likely to be lost or degraded by all types of wetland threats. Imminence of threat measures the time period within which the wetlands are likely to be destroyed or altered. These factors include changes in population growth and movements; food and energy policies and supplies; local, State and Federal laws and ordinances; and land or resource use controls. For example, the movement of people from the Northeastern U.S. to "sun belt" States such as California, Florida, Hawaii and Texas may fuel a demand for conversion of wetlands to urban lands. The National Planning Association, an economic research organization in Washington, D.C., has estimated that 80 percent of the Nation's population growth for the period 1980-2000 will occur in the south and west. The top 10 States for population growth were projected to be: California, Florida, Texas, Arizona, North Carolina, Georgia, Washington, Colorado, Virginia and Tennessee. The threat to wetlands could be high in these States due to developmental pressures associated with rapid population growth. A depressed agricultural economy due to crop surplus, low prices and weak export demand could result in a reduced rate of wetland conversion to agricultural lands. Conversely, increased demand for U.S. agricultural products could promote conversion of wetlands to agricultural lands.

Coastal wetlands have experienced significant historic losses and continue to be threatened. For example, the U.S. Census Bureau has estimated that 75 percent of the population is expected to live within 50 miles of the U.S. coast (including the Great Lakes coastlines) by the year 1990 (President's Council on Environmental Quality, 1984). This

Wetland Type	Ecoregion No.*		Index of Loss Division
Palustrine Emergent	2300	Subtropical	High
	2100	Warm Continental	
	2500	Prairie	
	2600	Mediterranean	Moderate
	2200	Hot Continental	
	3200	Steppe	
	2312	Southern Floodplain Forest	Low
	2400	Marine	
	2312	Southern Floodplain Forest	
Palustrine Forested	2300	Subtropical	High
	2600	Mediterranean	Moderate
	2500	Prairie	
	2400	Marine	
	2100	Warm Continental	Low
	2200	Hot Continental	
	3100	Steppe	
Palustrine Scrub-Shrub	2300	Subtropical	
	2600	Mediterranean	High
	2400	Marine	
	2312	Southern Floodplain Forest	
	2500	Prairie	Moderate
	2100	Warm Continental	
	3100	Steppe	
	2200	Hot Continental	Low

* See Figure 1.

Special Note: *Trends study data were unreliable for the Desert ecoregion. However, based on the inherent rarity of palustrine emergent, forested and scrub-shrub wetlands in the Desert ecoregion and recognized historical and recent losses of these types, they should be accorded high priority consideration for acquisition.*

Table 2. Index of Loss by Ecoregion for Selected Palustrine Wetland Types.

•Domains, Divisions, Provinces and Sections used on Bailey's (1976) map and described in detail in Bailey (1978). Highland ecoregions are designated, M mountain, P plateau, and A altiplano.

1000 Polar
1200 Tundra
1210 Arctic Tundra
1220 Bering Tundra
M1210 Brooks Range
1300 Subarctic
1320 Yukon Forest
M1310 Alaska Range
2000 Humid Temperate
2100 Warm Continental
2110 Laurentian Mixed Forest
2111 Spruce-Fir Forest
2112 Northern Hardwoods-Fir Forest
2113 Northern Hardwoods Forest
2114 Northern Hardwoods-Spruce Forest
M2110 Columbia Forest
M2111 Douglas-fir Forest
M2112 Cedar-Hemlock-Douglas-fir Forest
2200 Hot Continental
2210 Eastern Deciduous Forest
2211 Mixed Mesophytic Forest
2212 Beech-Maple Forest
2213 Maple-Basswood Forest + Oak Savanna
2214 Appalachian Oak Forest
2215 Oak-Hickory Forest
2300 Subtropical
2310 Outer Coastal Plain Forest
2311 Beech-Sweetgum-Magnolia-Pine-Oak
2312 Southern Floodplain Forest
2320 Southeastern Mixed Forest

2000 Humid Temperate
2400 Marine
2410 Willamette-Puget Forest
M2410 Pacific Forest (in conterminous U.S.)
M2411 Sitka Spruce-Cedar-Hemlock Forest
M2412 Redwood Forest
M2413 Cedar-Hemlock-Douglas-fir Forest
M2414 California Mixed Evergreen Forest
M2415 Silver fir-Douglas-fir Forest
M2410 Pacific Forest (in Alaska)

2500 Prairie
2510 Prairie Parkland
2511 Oak-Hickory-Bluestem Parkland
2512 Oak + Bluestem Parkland
2520 Prairie Brushland
2521 Mesquite-Buffalo Grass
2522 Juniper-Oak-Mesquite
2523 Mesquite-Acacia
2530 Tall-Grass Prairie
2531 Bluestem Prairie
2532 Wheatgrass-Bluestem-Needlegrass
2533 Bluestem-Grama Prairie
2600 Mediterranean (Dry-summer Subtropical)
2610 California Grassland
M2610 Sierran Forest
M2620 California Chaparral

3000 Dry
3100 Steppe
3110 Great Plains-Shortgrass Prairie
3111 Grama-Needlegrass-Wheatgrass
3112 Wheatgrass-Needlegrass
3113 Grama-Buffalo Grass

3000 Dry
3100 Steppe
M3110 Rocky Mountain Forest
M3111 Grand fir-Douglas-fir Forest
M3112 Douglas-fir Forest
M3113 Ponderosa Pine-Douglas-fir Forest
3120 Palouse Grassland
M3120 Upper Gila Mountains Forest
3130 Intermountain Sagebrush
3131 Sagebrush-Wheatgrass
3132 Lahontan Saltbush-Greasewood
3133 Great Basin Sagebrush
3134 Bonneville Saltbush-Greasewood
3135 Ponderosa Shrub Forest
P3130 Colorado Plateau
P3131 Juniper-Pinyon Woodland + Sagebrush Saltbush Mosaic
P3132 Grama-Galleta Steppe + Juniper-Pinyon Woodland Mosaic
3140 Mexican Highland Shrub Steppe
A3140 Wyoming Basin
A3141 Wheatgrass-Needlegrass-Sagebrush
A3142 Sagebrush-Wheatgrass
3200 Desert
3210 Chihuahuan Desert
3211 Grama-Tobosa
3212 Tarbush-Creosote Bush
3220 American Desert
3221 Creosote Bush
3222 Creosote Bush-Bur Sage
4000 Humid Tropical
4100 Savanna
4110 Everglades
4200 Rainforest
M4210 Hawaiian Islands

Figure 1: Ecoregions of the United States after Bailey (1976) with the addition of 10 marine and estuarine provinces (Taken from Cowardin *et al.* 1979, page 27).

concentration of humans and their land use activities places a high level of threat on coastal area wetlands. However, in the past decade a strong emphasis by Federal and State regulatory programs in the coastal zone has reduced estuarine wetland losses compared to the period before the mid-1970's.

Various land use controls achieved through local zoning, Federal regulatory programs for activities in wetlands, and coastal zone laws influence human activities that cause wetland losses or alterations. For example, coastal wetland losses have been drastically reduced in Delaware, New Jersey and Maryland through State coastal and/or inland wetland protection laws. The Food Security Act of 1985 contains several wetland protection features that could significantly reduce the threat of wetland losses due to agricultural conversion. Nonetheless, even in the most conservation conscious States, with the strongest management, regulatory and acquisition mechanisms, wetlands continue to decline.

Because of the aforementioned variables, degree and imminence of threat are often difficult to determine. However, it is important to establish that wetlands are threatened by loss or degradation. Types of threat and laws, ordinances or land use controls fostering protection of wetlands should be considered in Appendix 1 in making a threshold decision that the wetland site is threatened. Quantifying threat type, degree and imminence is encouraged in developing ranking systems to measure threat.

3. WETLAND FUNCTIONS AND VALUES

Criteria

- Wetlands to be given priority consideration for acquisition are those with important and diverse functions and values and/or especially high or special value for specific wetland functions.
- All wetland functions and the broadest range of wetland values should be considered in establishing priorities without greater priority consideration given to one public value over another.

Discussion

Wetlands provide important public values including fish and wildlife habitat (e.g., support endangered and threatened species, migratory birds and resident species); surface and groundwater supply; water quality improvement; flood, erosion and storm damage reduction; outdoor recreation; and research and education. Wetland functions and values vary according to wetland type, location and human modification.

Wetlands do not necessarily perform all functions with associated public service values and/or perform them equally well.

Congress directed the Department to consider contributions wetlands make to wildlife, fisheries, water quantity and quality, flood control, outdoor recreation and other areas or concerns of the Secretary. As indicated by the Report of the Senate Committee on Environment and Public Works (U.S. Senate, September 16, 1986):

> " *No one of these services or products provided by the respective wetlands types should be given greater priority than any other. Instead, the Secretary should consider the broadest range of wetlands values in establishing priorities and not limit his consideration to any one service or product contributed by a wetlands type.*"

A summary discussion of the functions and values of wetlands is provided to assist in understanding the importance of wetlands from the standpoint of public values that should be protected. "An Overview of Major Wetland Functions and Values" (Sather and Smith, 1984) and "A Method for Wetland Functional Assessment, Vol. 1" (Adamus and Stockwell, March 1983) were the sources for much of this information. These reports are example sources that may be consulted for detailed information on wetland functions, assessment methodologies and literature sources.

a. and b. Wildlife and Fisheries

Wetlands are among the world's most biologically productive ecosystems and are crucial as habitats for fish and wildlife. Roughly two-thirds of the commercially important fish and shellfish species harvested along the Atlantic and Gulf coasts and half of the Pacific coast are dependent upon estuarine wetlands for food, spawning and/or nursery areas. A commercial marine fisheries harvest valued at over $10 billion annually provides one economic measure of the significance of coastal wetland resources. Coastal recreational fishing may contribute an equivalent economic value annually (U.S. Department of Commerce, 1987).

Wetlands provide essential breeding, spawning, nursery, nesting, migratory and/or wintering habitat for a major portion of the Nation's migratory and resident fish and wildlife. Approximately one-third of the Nation's threatened and endangered plant and animal species depend heavily on wetlands. Millions of water-associated birds including waterfowl, shorebirds, wading birds, gulls and terns, rails and other groups depend on marshes, potholes, sloughs, swamps, mudflats and other wetland types.

Fish and wildlife habitat is one of the more studied functional values of wetlands (Lonard *et al.*, 1981). The state-of-the-art for fish and wildlife

resource evaluations is well-developed, although many habitat evaluation methodologies are based on various assumptions due to current gaps in knowledge on wildlife habitat requirements. The Service's Habitat Evaluation Procedure (HEP), which is based on a numerical rating of habitat quality, is the most comprehensive methodology for quantifying fish and wildlife resource values (U.S. Fish and Wildlife Service, 1980).

High fish and wildlife resource values (biological or socioeconomic) for wetlands are often associated with such factors as diverse species composition; abundant wildlife numbers or populations; presence of species, populations or habitats of special importance or concern; and/or satisfaction of habitat requirements for those species with specialized habitat or occupying outer extensions of their range. Large, diverse wetlands, hydrologically connected to other wetlands, are likely to have high wildlife resource values since they meet the living requirements of more species. Wetlands with an irregular wetlands-open water edge and intermixture of open water and wetland vegetation are more likely to provide diverse food and cover conditions supporting more wildlife.

c. Hydrologic

Hydrologic functions of wetlands include surface and groundwater recharge and discharge, water quality, flood water conveyance and storage, and shoreline and erosion protection. Most wetland functions are related to the presence, quantity, quality and movement of water in wetlands (Carter *et al.*, 1979). In general, the hydrologic functional values of wetlands are not well understood and the state-of-the-art is poorly developed (Lonard *et al.*, 1981); this is because wetlands are among the most difficult hydrologic environments to assess (Sather and Smith, 1984). Additional research and field testing are needed to correct this deficiency. Wetlands assessment techniques for hydrological functions are limited or poorly developed.

(i) Surface and Groundwater Supply

The groundwater discharge function of wetlands (i.e., movement of groundwater into surface water, e.g., springs) is recognized as being more important than the groundwater recharge function (i.e., movement of surface water into groundwater aquifers). Most wetlands are areas of groundwater discharge with some providing water for public uses. Many researchers believe that most wetlands do not function as groundwater recharge sites (Carter *et al.*, 1979). Some exceptions include depressional wetlands like cypress domes in Florida and prairie potholes in the Dakotas (Lissey, 1971). In urban areas, the pumping of municipal wells may draw water from streams and adjacent wetlands and induce groundwater recharge in wetlands (Tiner, 1985). Seasonal wetlands are more likely to perform a recharge function than are permanent or semi-permanent wetlands (Reppert *et al.*, 1979). Recharge is important for

replenishing aquifers used for water supply. Wetlands demonstrated to be groundwater discharge sites are good indicators of potential water supplies for towns. More work is needed to adequately understand this function in specific wetlands (Sather and Smith, 1984).

The effectiveness of the groundwater supply function of wetlands is higher when the surface and groundwater aquifers are connected. The socio-economic value is higher when the public derives its water supply from the wetlands or related groundwater aquifer. The public benefits of this wetland function include water supply for public use, irrigation, livestock watering and wildlife uses.

(ii) Water Quality

Wetlands can help maintain water quality or improve degraded water by removing, transforming and retaining nutrients; processing chemical and organic wastes and pollutants (including heavy metals); and reducing sediment loads. Wetlands intercept runoff from uplands before it reaches the water and help filter sediments, nutrients and wastes from flood water. It is important, however, to recognize that wetlands have a finite capacity to perform this function.

Important water quality functions of wetlands include uptake, transformation and addition of materials as water flows through the wetlands. Wetlands act as sediment, toxic substance and nutrient traps and perform functions similar to a waste treatment plant. The waste treatment or water quality improvement process occurring in wetlands still needs additional study to understand retention mechanisms and capacities. Wetlands also have an important water quality role as sedimentation basins. Wetland vegetation filters (e.g., lowers turbidity of floodwater) and holds sediments which otherwise enter lakes, streams, reservoirs or harbors, often necessitating costly maintenance dredging activities. However, excessive sedimentation may raise the elevation of wetlands and accelerate their conversion to uplands, thereby eliminating values for trapping sediments. Wetlands also assimilate toxic substances, such as heavy metals and pesticides. The pollutant trapping function can result in serious problems for fish and wildlife, e.g., Kesterson National Wildlife Refuge and other refuges in the West collect irrigation return flow water containing leached salts and other minerals in toxic concentrations.

The water quality value of wetlands is highest when there is a net removal or detoxification of materials that would lower water quality further downstream. As would be expected, wetlands in urbanized and agricultural environments have more eutrophic water (i.e., excessive amounts of dissolved nutrients that may stimulate biological growth and reduce oxygen levels in water) than ones in forested and/or naturally vegetated areas.

(iii) Flood, Erosion and Shoreline Damage Reduction

Flood Reduction--Wetlands temporarily store flood water, slow water velocities, reduce bank and shoreline erosion, and slowly release stored water downstream, thereby saving lives and property. This function is especially important in areas with developed floodplains, where the potential for flood damage is high. Inland wetlands located along major streams and around lakes stabilize shorelines and channel banks and buffer developed uplands from storm, wave or erosion damage. Coastal wetlands serve these functions as well as providing a buffer to reduce potentially devastating effects of storm surges.

Flood conveyance and reduction functions of wetlands relate to their capacity to store and slow flood water, thereby increasing the duration of the flow and reducing downstream flood peaks (Sather and Smith, 1984). Many authors cite the Corps of Engineers' 1972 study of the Charles and Neponset River watersheds in Massachusetts as a prime example of the socioeconomic values associated with protecting wetlands to maximize flood control benefits. In this study, the Corps estimated that loss of the 8,423 acres of wetlands within the basin would result in annual flood damages of over $17,000,000 (Sather and Smith, 1984).

Important factors influencing the flood reduction role of wetlands include: size (larger wetlands provide more flood storage and flow reduction); location within the basin (wetlands in the upper watershed often are more effective for flood retention); texture of substrate; structure of the vegetation; and connection with other wetlands (isolated wetlands are generally less effective for flood control).

The data base continues to improve regarding capability to identify wetlands having high potential for flood reduction. For example, Ogawa and Male (1986) have developed a methodology for assessing the flood control role of individual wetlands for certain kinds of streams.

The flood control functional value of a wetland site could be measured by its potential to store floodwater and prevent future flood damage that could result in substantial public costs each year. Among different wetland types, riverine wetlands with adjacent open or relatively open (non-developed) flood plains often have relatively high flood storage and conveyance values.

Erosion and Shoreline Damage Reduction--Wetland vegetation plays an important role in reducing damages from shoreline erosion by binding (i.e., plant roots hold soil) and stabilizing substrate, trapping sediments and reducing wave or current energy (Reppert *et al.*, 1979). The effectiveness of shoreline vegetation in reducing erosion depends on particular species, width of shoreline vegetation (e.g., the wider the wetland area, the higher the value), substrate (e.g., sandy substrate is less

stable than clay soils) and height and slope of the bank (Clark and Clark, 1979).

The direct economic significance of the shoreline erosion control function of wetlands was summarized by Adamus and Stockwell (1983) as follows: "Millions of dollars are spent annually for construction of jetties, bulkheads, and other structures intended to inhibit shoreline erosion by waves and currents. Such erosion may destroy inhabited structures, eliminate harvestable timber and peat, remove fertile soil and alter local land uses. Eroded sediments may be redeposited in navigable channels, aggravating the need for costly dredging."

Wide, densely vegetated wetlands with a long linear extent, especially along coastal areas, and those inland wetlands adjoining larger lakes or rivers are generally more effective at performing this wetland function. Coastal emergent and forested (e.g., cypress or mangrove) fringe wetlands and inland forested and scrub-shrub wetlands are often effective for protecting against erosion caused by storm tides or waves or high velocity water during flooding or heavy runoff. The value of riparian vegetation for streambank stabilization has been extensively documented throughout the U.S. The public value of this function usually is higher when developments or high value lands are located near wetland areas.

d. Outdoor Recreation

Wetlands support boating, swimming, sport fishing, hunting, birdwatching, nature observation and study and other wetland-related recreational activities that generate billions of dollars of expenditures annually. For example, 17.4 million hunters spent about $5.6 billion on supplies, lodging, transportation and other related expenses in 1980 (U.S. Department of the Interior and U.S. Department of Commerce, 1982). Of these totals, 5.3 million hunted waterfowl, spending about $640 million. In total, fish and wildlife-related recreation in 1980 was a $41 billion industry, largely based on wetland resources.

Participation in water- and wetland-related outdoor recreation by Americans twelve years and older was estimated in 1982-83 at 53 million for boating, 64 million for fishing and 22 million for birdwatching (U.S. Department of the Interior, 1986). Recreation in wetlands, such as hiking, nature observation and photography, swimming, boating, and ice-skating, is generally not evaluated in economic terms. Many people simply enjoy the beauty and sounds of nature and spend their leisure time walking or boating in or near wetlands observing plant and animal life. The aesthetic value of wetlands is extremely difficult to evaluate or quantify monetarily. Nonetheless, it is very important, because in 1980 alone, 28.8 million people (17 percent of the U.S. population) took special trips simply to observe or photograph wildlife (U.S. Department of the Interior and U.S. Department of Commerce, 1982).

Easily accessible wetlands that are close to major population centers often have higher direct outdoor recreation value than non-accessible wetlands located some distance from any population centers.

e. Other Areas or Concerns

Other important wetland values that were not specifically mentioned in section 301(c) of the Act, include natural areas, education, research, scenic, archaeological, historical and open space. Also, with proper management, consumptive uses of wetlands, such as agriculture, commercial fishing and timber harvest, may be compatible with wetland protection.

Wetlands are important as natural areas containing diverse plant and animal life. Since wetlands constitute only an estimated 5 percent of the Nation's lands in the contiguous U.S. (Kusler, 1983), these communities are, in general, rare. Their special importance resulting from their rarity and plant diversity is shown, for example, by the high percentage of wildlife species using these areas (e.g., an estimated 80 percent or more of the wildlife species in the dry southwestern U.S. utilize wetlands). Undisturbed natural wetland communities have high value as prime examples of their community type, as areas of study and comparison, and for protection of the unique resource. Most States recognize the value of wetland natural areas through special designation under The Nature Conservancy's Natural Heritage Program.

Society often more easily identifies with consumptive wetland values (e.g., outdoor recreation or commercial fishing) than nonconsumptive values (e.g., wildlife habitat, natural areas, research or water quality) because the consumptive values are more easily measured in monetary terms. Although consumptive values of wetlands (e.g., timber, peat, commercial fishery) are monetarily quantifiable, there is no clear agreement on an assessment methodology for defining such functional values of wetlands. Limited work has been conducted to define or quantify the nonconsumptive or less quantifiable values of wetlands.

The nonconsumptive values of wetlands usually are highest when wetland quality (i.e., undisturbed natural communities, unpolluted water) and fish and wildlife resource diversity are high and there is good accessibility for outdoor recreation uses. Certain uses of wetlands (e.g., timber harvest, recreational, contaminant removal, livestock watering and grazing, crop production, energy and mineral extraction), if not carefully managed, may cause degradation and reduction of fish and wildlife, recreational or scenic values. Such uses of wetlands to achieve a direct economic return may also lower other functional wetland values such as habitat and water quality. It is important to manage consumptive uses of wetlands so the integrity of the ecosystem is protected. This requires a good understanding of wetland functions and values.

The wetland functions and values part of the Threshold Criteria in Appendix 1 contains statements that were selected in part based on analysis of information and techniques evaluated in the literature on wetlands and assessment methodologies. One important source of information was the Operational Draft Wetland Evaluation Technique (WET), Volume II (Adamus *et al.*, 1987). Questions in the Threshold Criteria emphasize biological and socioeconomic components of wetland functional values that assist in identifying important or outstanding features of wetlands.

F. OTHER WETLAND ACQUISITION CONSIDERATIONS

It is necessary in the acquisition planning process to determine the appropriate acquisition interest in the wetland site under consideration in order to achieve the acquisition objectives. Factors that are often considered in making this acquisition decision include the degree of financial interest in the wetlands required; cost to restore, enhance, operate and/or maintain the acquired wetlands; and the willingness of the current owner(s) to grant the desired interest in the wetlands. These factors are discussed in the NWPCP in the context of directing attention and/or priority in the acquisition planning process; however, these factors should not be ranked or weighed during the early planning stage when a threshold determination is to be made concerning qualification for acquisition consideration. Rather, they should be considered later in the acquisition process when more detailed information is available to determine when and under what conditions a wetland site should be acquired. This planning occurs only after the initial decision has been made that the wetland site meets the threshold criteria for acquisition. A complementary evaluation or ranking system may be used for this purpose. The Service, for example, addresses these factors in the Land Acquisition Priority System.

Factors to be Considered

- Priority consideration will be given to wetlands whose public values and benefits cannot be maintained or realized, except through acquisition.
- Priority consideration will be given to interests in wetlands (acquisition methods) that are the most cost-effective available while fully and permanently allowing for protection and/or improvement of the public values provided by the wetlands. Fee title, perpetual easements, leases, deed restrictions, land donations and exchanges or other methods may be employed.

- Upland areas and/or aquatic areas that contribute appreciably to the long-term preservation of adjacent wetlands may be given priority consideration for acquisition.
- Priority consideration will normally be given to wetlands which can be acquired from willing sellers.
- Priority may be assigned regardless of size (large or small) or the physical or biological condition of the wetland site (degraded or undisturbed). Restorable or pristine wetland sites may warrant priority depending on various interrelated acquisition considerations.
- Wetland sites having minimal operation and maintenance requirements warrant priority consideration for acquisition.

1. Financial Interests In Wetlands

Section 304 of the Act authorizes the Secretary to purchase wetlands or "interests in wetlands" consistent with the NWPCP. Guidance on Federal acquisitions given in the Report of the U.S. Senate Committee on Environment and Public Works on the Act (U.S. Senate, September 16, 1986) indicated:

> "*Acquisition should be limited to those purchases of fee title or easements of wetlands and associated upland areas that contribute appreciably to the long-term preservation of such wetlands and associated populations of fish, wildlife, and plants. Acquisition of upland areas adjacent to wetlands is often essential to maintaining the values of those wetlands. Acquisition of less than fee interests, such as acquiring the surface estate but not the mineral interests, or acquiring an easement, is often appropriate. Long-term preservation of wetlands and associated uplands may often best be achieved through obtaining easement in perpetuity.*"

As emphasized by the Senate Committee Report, uplands adjacent to wetlands may be considered for acquisition when it is established that their acquisition is essential to maintaining the functional integrity and quality of the wetland ecosystem. Based on the NWPCP Threshold Criteria, as long as at least one half or greater of the wetland acquisition site consists of rare or declining wetland types, the remainder of the site could be essential adjacent uplands and/or non-declining wetland types and still qualify for acquisition consideration.

Section 305 of the Act directs that the powers of condemnation or eminent domain shall not be used to acquire wetlands which either have been constructed for the purpose of farming or ranching (e.g., ponds) or have resulted from conservation activities associated with farming or

ranching (e.g., wetlands incidental to irrigation practices). In general, wetlands that can be acquired from willing sellers should be given priority in the acquisition planning process.

Fee title acquisition of wetlands generally offers the greatest opportunity for land use management and control. Acquisition of a lesser interest, such as an easement or deed restriction, may be less effective (although not necessarily less desirable) to protect a wetland site unless sufficient restrictions are included to secure the desired public interest values. In general, the following factors must be considered in establishing the effectiveness for wetland protection of a purchase that is less than fee title:

1) Time Period - In perpetuity easements are preferred over short-term (e.g., 10- or 20-year) easements.
2) Protection of Wetland Resource Values - Restrictions on wetland uses by the landowner must be specified in the easement to protect the fish and wildlife habitat, water sources/supply, public access and/or other appropriate functions or values of the site.
3) Cost Effectiveness - The cost for securing the easement (or other interest in the wetland) with the appropriate land use restrictions should be less than the cost of fee title purchase.

Fee title or easement acquisition need not only involve cash purchases; land donations or exchanges are also acceptable. As appropriate, local interests or groups other than Federal or State agencies, such as The Nature Conservancy or the Audubon Society or similar non-profit groups, may be involved in the wetland acquisition planning process and management.

LWCF appropriations provide a major source of money for land acquisition (non-wetland and wetland) by the Bureau of Land Management (BLM), Fish and Wildlife Service, U.S. Forest Service and National Park Service (NPS). Additionally, funding for acquisition of Fish and Wildlife Service refuge lands (including waterfowl production areas) is authorized by the Migratory Bird Hunting and Conservation Stamp Act and Wetlands Loan Act. LWCF monies are also provided to the States for land acquisition and facilities. States received almost $370 million in LWCF monies in Fiscal Year 1979 and $16.5 million in Fiscal Year 1988. Many States also have their own programs for funding wetland acquisitions. Among private organizations, The Nature Conservancy operates a successful land acquisition program designed to protect outstanding examples of natural communities and demonstrates that private citizens and organizations can cooperatively purchase land which they believe has a higher and better use for which they are willing to pay.

2. Wetlands Restoration

A wetland site may have been significantly altered or degraded through human activities yet still have important functions and values or have potential for having functions and values improved significantly. Such sites may warrant the same priority consideration for acquisition that might be given a pristine or less disturbed wetland site because of the potential for recovering wetland functions and values at a relatively low restoration cost. For example, some diked wetlands could have an opening put in the dike to restore freshwater or tidal water flow. This action could significantly increase fish and wildlife resource and outdoor recreational values, as well as increase flood storage area and reduce problems associated with saltwater intrusion.

3. Management

Federal and State fish and wildlife and State parks and recreation agencies frequently will be responsible for managing wetlands acquired under the authority of the Emergency Wetlands Resources Act. However, as appropriate, other Federal, State or local agencies (e.g., NPS, BLM, U.S. Forest Service, County parks and recreation departments) and private conservation organizations (e.g., The Nature Conservancy, Ducks Unlimited) may be responsible, or share responsibility with other agencies, for managing acquired wetlands.

Management needs and costs are important considerations for Federal or State wetland acquisition planning. In order to minimize operation and maintenance costs and manpower, it may be appropriate to give priority consideration to wetland sites requiring very limited long-term physical maintenance and management to protect and enhance wetland functions and values. Use of personnel from a non-profit or volunteer group for management purposes may be a feasible option in appropriate circumstances. In any case, consideration should be given to identifying any necessary funding and manpower sources for managing wetlands to be acquired.

Characteristics of the site that could generate management constraints (i.e., biological or political problems) should be carefully evaluated in the acquisition planning process, e.g., lack of water rights, environmental contaminants, ability to protect the wetland site and resources, or extraction of energy or mineral resources. Likewise, off-site biological or political problems (e.g., soil erosion, pesticides, contaminated irrigation

water) should be assessed to determine if they may adversely affect a potential wetland site.

Land use activities proposed on a potential acquisition site should be compatible with protection of the wetland functions and values. Hunting, fishing, trapping, boating and birdwatching are examples of recreational activities in wetlands that through proper management could be compatible with maintaining the integrity of the wetland site.

The relative size of a wetland site, particularly small wetlands, should not in itself disqualify it from priority consideration for acquisition or management. Certain acquisition processes are better suited to smaller units while some realize increased efficiency in larger units. The diversity of interests among entities considering wetland acquisitions (e.g., Federal, State and local governmental agencies, private organizations) that may refer to the NWPCP for guidance, necessitates an open-minded approach.

G. IMPLEMENTATION GUIDANCE

The following guidance is provided to assist in implementing this NWPCP and fulfilling its purpose.

The Act directs the establishment of a NWPCP for setting acquisition priority by specifically considering wetland losses, vulnerability and functions and values. The goal of priority setting is to establish a system that leads to selecting the rare or declining wetland types within the more important and vulnerable wetland sites in the U.S. The NWPCP Threshold Criteria establish minimal standards for projects to be considered for possible funding under the LWCF authority. Section 304 of the Act only authorizes the Secretary to acquire wetlands with LWCF appropriations; therefore, Federal agencies must use other authorities and funding sources to restore, enhance and/or manage wetlands acquired under the LWCF authority. However, the LWCF Act authorizes the Secretary to provide financial assistance to the States for planning, acquisition and development of land and waters. In keeping with the fragile nature of wetlands, any development should not degrade the wetland.

1. ROLE OF THE STATES

Section 303 of the Act (discussed in section C, Authority) requires that SCORPs include wetlands components. The National Park Service administers the Federal portion of the SCORP program and is managing the required program changes through revision of Federal regulations, technical assistance and training. The Fish and Wildlife Service and the National Park Service have cooperated closely during development of the NWPCP, especially regarding section 303 requirements and State implementation guidance, in order to facilitate these changes.

In order to meet the requirements of the Act and maintain eligibility to participate in the LWCF Program, each State must revise its SCORP to include a wetlands component, or develop a State Wetlands Priority Plan that is consistent with the NWPCP as an addendum to the SCORP. The Act also requires that the State agency responsible for fish and wildlife resources be specifically consulted as part of this process. The National Park Service can provide recreational grants to States for work on SCORPs, including development of wetlands components.

The National Park Service has indicated that they are requiring States to develop SCORP wetlands components that are consistent with the NWPCP. They have requested that a State Assessment and Policy Plan should include consideration of wetlands as an important outdoor recreation resource, as well as address wetland protection strategies, including acquisition. At a minimum, the wetlands component of the Assessment and Policy Plan should provide wetland acquisition goals, objectives and/or strategies. Also, the State Action Program should consider specific actions that will be taken to protect wetlands. The relationship between SCORP wetlands components and the NWPCP is shown in Figure 2.

Since the SCORP wetlands component is an implementation tool for wetland protection, it should identify wetland sites (refer to definitions section) warranting priority consideration for acquisition. If the information is available, specific wetland parcels or tracts may be listed. If the planning information is general in the Assessment and Policy Plan (e.g., freshwater emergent wetlands in the southern part of the State), then the National Park Service is requiring States to list in their Action Program specific wetland sites intended to be acquired consistent with NWPCP criteria. States are encouraged, but not required, to use the Threshold Criteria (Appendix 1) and follow the outline for the Service Regional Wetlands Concept Plan (Concept Plan) contained in the NWPCP to comply with the Act, while making modifications and increasing the level of detail and accuracy as necessary to meet State needs.

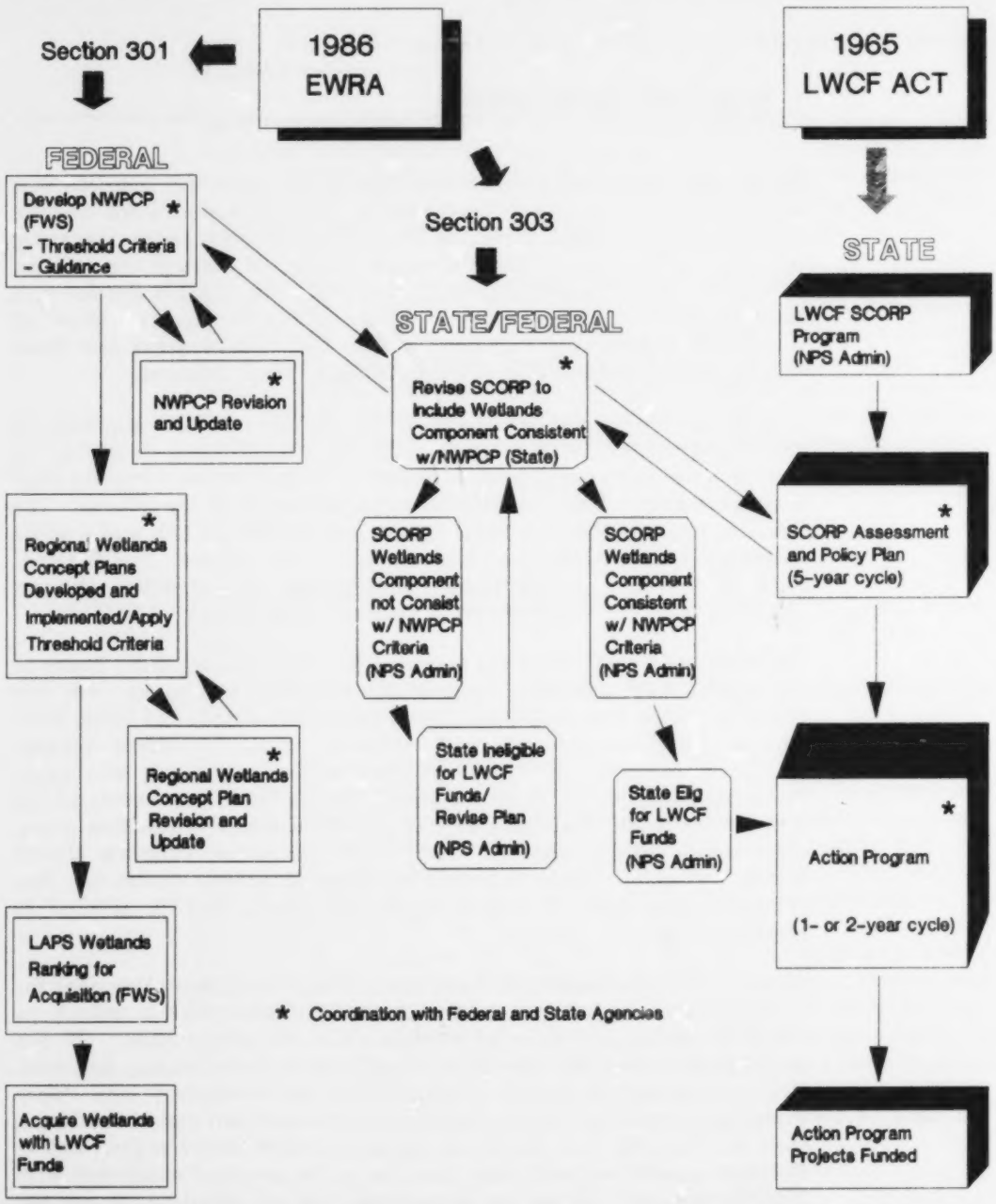
Section 301
1986
EWRA
1965
LWCF ACT
FEDERAL
Develop NWPCP (FWS)
- Threshold Criteria
- Guidance
Section 303
STATE
LWCF SCORP Program (NPS Admin)
STATE/FEDERAL
NWPCP Revision and Update
Revise SCORP to Include Wetlands Component Consistent w/NWPCP (State)
SCORP Assessment and Policy Plan (5-year cycle)
Regional Wetlands Concept Plans Developed and Implemented/Apply Threshold Criteria
SCORP Wetlands Component not Consist w/ NWPCP Criteria (NPS Admin)
SCORP Wetlands Component Consistent w/ NWPCP Criteria (NPS Admin)
Regional Wetlands Concept Plan Revision and Update
State Ineligible for LWCF Funds/ Revise Plan (NPS Admin)
State Elig for LWCF Funds (NPS Admin)
Action Program (1- or 2-year cycle)
LAPS Wetlands Ranking for Acquisition (FWS)
* Coordination with Federal and State Agencies
Acquire Wetlands with LWCF Funds
Action Program Projects Funded

Figure 2: Flowchart Showing the Relationship Between SCORP Wetlands Components and the NWPCP

While the National Park Service is requiring that SCORP wetlands components will be consistent with the NWPCP, it is recognized that they need not and will not be identical. However, they must be consistent with the NWPCP regarding the generic wetland loss, threat, and functions and values criteria specified in the Act. To the extent possible, the Service will use State Wetlands Priority Plans in formulating Service Regional Wetlands Concept Plans.

The NWPCP allows States flexibility to conduct wetland acquisition priority planning and to develop their own wetlands assessment criteria as long as they are compatible with the framework established by the three generic criteria in the Act on wetland scarcity, vulnerability and function and values. The NWPCP is intended to effect priority planning efforts for protecting wetland resources at the State level based on evaluating all important wetland values, without greater priority consideration given to any one value over another. However, the Senate Committee Report (1986) indicated that wetlands acquired under the LWCF State grant program will be subject to direct recreation use, or if not subject to direct public access, will produce valuable recreation opportunities elsewhere (e.g., migratory bird sanctuary).

A State may develop its own evaluation criteria or modify the NWPCP Threshold Criteria to meet State needs (i.e., refine the threshold criteria to be more specific and geared to the State level rather than the national level). For example, State Wetlands Priority Plans can give resolution not possible in the NWPCP, such as identifying specific areas (e.g., Rainwater Basin) within a State or portion of an ecoregion warranting top priority consideration for acquisition. However, the process should still result in collection or generation of sufficient information that can be used by Federal or State decisionmakers to determine if the wetland site is eligible for acquisition consideration based on the Threshold Criteria in the NWPCP.

The qualifying thresholds determined by an individual State should not be lower than those established by the NWPCP Threshold Criteria. In other words, a State should have gathered and substantiated sufficient background information on a proposed wetland acquisition project to allow a Federal or State decisionmaker to determine that the wetland site: 1) includes predominantly (greater then 50 percent) rare or declining wetland types (or substantiated exceptions); 2) is threatened with loss or degradation; and 3) has had all the functional values considered with equal priority and is recognized, identified or listed as important for at least two functional values. If a State finds that these threshold criteria would exclude wetland types and sites that warrant priority in the State, then documentable information should be provided to substantiate the departure from the minimal standards set by the NWPCP Threshold Criteria.

The NWPCP provides States with latitude to use other classification criteria and systems, such as a Natural Areas Inventory. For example,

the inventory system used in Florida is based on organizing land acquisition objectives according to resource categories, such as natural communities, forest resources, coastal resources and fish and wildlife. Wetlands are one of the land types found within most of these resource categories. The Cowardin et al. wetlands classification system used in the NWPCP can easily be applied to address wetland types found within such systems.

States using their own resource classification system, however, should be or become knowledgeable about the Cowardin et al. classification system in order to ensure that priority acquisition proposals considered for LWCF appropriations are definable wetland types established to be rare or declining in the ecoregion. The Service continues to recommend that States use the Cowardin et al. wetlands classification system because it leads to standardized terminology and is useful for objectively comparing States based on compatible data.

It is recognized that States have experienced some problems in modifying their SCORPs to address wetlands since the schedule for developing SCORP wetlands components preceded completion of the final NWPCP. Consequently, some States were uncertain about the level of specificity required in their wetlands components to be consistent with the NWPCP and the Act. In recognition of this scheduling problem, the National Park Service provided the States with a draft version of the NWPCP in July 1987 for guidance. The final NWPCP is very similar based on framework and generic criteria.

The National Park Service is allowing States flexibility in their Policy and Assessment Plans to develop more generalized wetlands components (e.g., priority given to declining and vulnerable wetland types along a major river in the southwestern portion of a State) if detailed information is not available to identify specific wetland tracts for acquisition. However, if wetlands acquisition is a SCORP priority, the National Park Service is requiring States to submit more specific information regarding wetland sites in the wetlands components to the Action Programs.

The available LWCF moneys for each State is very limited and also wetland projects have to compete with non-wetland outdoor recreation projects. Therefore, a State many want to develop a wetland acquisition ranking system that would permit numerical ranking of candidate projects. A weighted scoring system could assist decisionmakers in determining which project(s) should be submitted first for possible use of LWCF moneys. The Service can provide information on its Land Acquisition Priority System to those States desiring an example of a numerical ranking system for wetland acquisition planning purposes. The National Park Service, however, is not requiring States to develop a numerical ranking system for use in the Recreation Plan Standard Open Project Selection Process.

It is not intended by the Act or as part of the NWPCP that States would have to inventory all wetlands as part of systematic acquisition planning. Most States probably are aware of a number of wetland sites, meeting NWPCP criteria for wetland scarcity, vulnerability, and function and values, that could be identified as warranting consideration for acquisition. This information plus State goals, objectives and/or strategies for wetland protection/acquisition are the basic ingredients needed to develop a SCORP wetlands component that demonstrates State level wetland acquisition planning and consistency with the NWPCP.

2. ROLE OF THE U.S. FISH AND WILDLIFE SERVICE

The Service will assist in fulfilling the purposes of this NWPCP by preparing Regional Wetlands Concept Plans that address the States within each of the seven Service Regions (refer to outline shown in Table 3). This outline also could be used by a State for preparing a State Wetlands Priority Plan. A Concept Plan will be prepared in coordination with a State fish and wildlife agency, as well as other State and Federal agencies (e.g., State Water Quality Board, State Parks and Recreation Department, Corps of Engineers, Environmental Protection Agency, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, National Park Service) having expertise regarding wetland functions and values (including water resources, flood control, and outdoor recreation), and will complement a State Wetlands Priority Plan or other SCORP wetlands component prepared under section 303 of the Act. In many situations, the two documents may be very similar depending on the degree of coordination and overlapping interests of Federal and State agencies.

The Concept Plans will assure that national priorities for wetlands acquisition are addressed within each State in compliance with the Act. The Concept Plans will discuss and list the Nation's wetland resources (specific sites and/or regions or systems) within each Service Region that should be given priority consideration for acquisition as directed in section 301 of the Act.

To accomplish this task, the Regional Offices of the Service will coordinate with the States at their request during their preparation of SCORP wetlands components to assist in achieving consistency with the NWPCP. Regions also will review the wetland resources in the States within their Regions and following the outline in Table 3 will prepare Concept Plans that address the criteria specified in the NWPCP and list wetland sites that should be given priority consideration for Federal and State acquisition. The Service will maintain close coordination with appropriate State and Federal agencies, including the agency responsible for fish and wildlife resources, to assist in identifying wetland issues and

potential acquisition sites which result from the SCORP revision process pursuant to section 303 of the Act.

During the acquisition planning process, the Service must also involve other Federal, State and local agencies and private conservation organizations having land and water use planning responsibilities, to identify their concerns and objectives. As appropriate, the Service should coordinate with the following agencies during development of the Concept Plans: Bureau of Land Management, Bureau of Reclamation, National Park Service, U.S. Forest Service, Corps of Engineers, Environmental Protection Agency, National Marine Fisheries Service, State fish and wildlife, State parks and recreation, water quality board, county flood control and The Nature Conservancy. The input of other agencies and conservation organizations involved in land and water use planning and protection is essential for a coordinated effort to protect priority wetlands.

To provide for national consistency, prospective wetlands should be systematically evaluated by Regions using the Threshold Criteria contained in Appendix 1. These criteria address: 1) the broad spectrum of public benefits (functions and values) provided by wetlands; 2) historic wetland losses; and 3) threat of wetland losses. A brief documentation has been requested at the end of most statements or questions to support the response. The use of supporting references as documentation is encouraged. The professional expertise and judgment of Service Field and Regional Office personnel will be relied upon to determine which wetland sites qualify for acquisition consideration, based on the criteria specified in the Act and the guidance provided in the NWPCP. The criteria in the NWPCP may be refined in the Concept Plans to address Regional needs provided that the generic threshold criteria are satisfied.

Wetland lists generated based on application of the Threshold Criteria will not be ranked because this would require extensive data, either non-existent or not readily available, to prepare a defensible ranked list. The lists should seek to identify wetland sites that meet the criteria specified in the Act and the guidance in the NWPCP.

The Service will continue to assist the National Park Service and States in formulating and revising the SCORP wetlands components required in section 303 of the Act. Full participation by the Service in the SCORP revision will facilitate comparability of State and national wetlands planning and reduce duplication of effort.

The Fish and Wildlife Service will fully comply with the National Environmental Policy Act (NEPA); and procedures set forth for implementing NEPA by the Council on Environmental Quality (40 CFR 1500-1508), Department of the Interior, and the Service in the development of Regional Wetlands Concept Plans and any subsequent acquisition and operation and management of wetlands listed in the Concept Plans.

OUTLINE

SERVICE REGIONAL WETLANDS CONCEPT PLAN

(May also be used for State Wetlands Priority Plans)

A. Introduction
B. Purpose and Authority
C. Consultation
D. Wetlands Assessment Criteria
   1. Wetland Loss
   2. Wetland Threat
   3. Wetland Functions and Values
      a. Wildlife (including endangered and threatened species, migratory birds and resident species)
      b. Commercial and Sport Fisheries
      c. Surface and Groundwater Quality and Quantity and Flood Control
      d. Outdoor Recreation
      e. Other Areas or Concerns
E. Wetland Acquisition Issues, Conflicts and Priorities
F. Implementation Guidance
G. Review and Revision
H. References
I. Definitions
J. Appendices
   Appendix 1 Lists of Wetland Sites for Acquisition Consideration (Including tables and maps, as appropriate)

Table 3. Outline for a Service Regional Wetlands Concept Plan.

3. ROLE OF OTHER FEDERAL AGENCIES

Federal agencies having specific wetlands, water resources or NWPCP-related responsibilities and/or expertise include:

Bureau of Land Management	*multiple use, outdoor recreation, wetlands*
Bureau of Reclamation	*water resources, flood control*
National Park Service	*outdoor recreation, SCORP*
Environmental Protection Agency	*water quality, wetlands*
National Marine Fisheries Service	*sport and commercial fisheries, marine and estuarine wetlands*
Corps of Engineers	*flood control, shoreline protection, wetlands*
Soil Conservation Service	*water resources, wetlands*

The preceding Federal agencies may be consulted for input to documents addressing wetland sites warranting priority for acquisition. An effort should be made to ensure consistency among the various Federal agencies making wetland acquisition decisions. Periodic informal interagency coordination is also recommended to discuss wetland acquisition and interrelated regulatory program activities and problems.

Federal agencies, including the BLM, NPS and U.S. Forest Service, that acquire lands under the LWCF authority should ensure that any existing land use or fish and wildlife management plans identifying proposed wetland acquisitions are consistent with the NWPCP. This may require modification of existing documents or development of agency wetland acquisition planning documents to ensure consistency with the NWPCP. All Federal agencies using LWCF monies for wetland acquisition should apply the NWPCP Threshold Criteria or Threshold Criteria modified to meet specific agency needs to identify wetlands qualifying to be considered for acquisition.

Although not required by the Act, all Federal agencies using a funding source for wetland acquisitions other than the LWCF authority, are encouraged to consult the Service, Service Wetlands Concept Plans, State Wetlands Priority Plans or follow NWPCP Threshold Criteria in making decisions regarding acquisition of priority wetlands. Alternatively, Federal agency wetland acquisition needs can be incorporated into Service Concept Plans during the coordination and updating of these documents.

4. FEDERAL WETLAND ACQUISITIONS

All agencies within the Department will ensure that wetlands acquired under the authority of the Emergency Wetlands Resources Act using LWCF moneys, in full or in part, are either: 1) listed in the Concept Plans; or 2) subjected to evaluation under the NWPCP Threshold Criteria or Threshold Criteria modified to meet agency needs and found to warrant priority consideration for acquisition. The Emergency Wetlands Resources Act, however, exempts wetland acquisitions using Migratory Bird Conservation Funds from being consistent with the NWPCP. The Service acquisition process is described in section G (5)(c).

Section 502 of the Act authorized the establishment of the Bayou Sauvage Urban National Wildlife Refuge. Significantly, this provision demonstrates Congressional intent that a broad variety of public values are considered in the decision to acquire a wetland site. The Bayou Sauvage Urban National Wildlife Refuge will provide public benefits associated with fish and wildlife resources (including endangered and threatened species), outdoor recreation opportunities, scientific research and environmental education, archaeological resources and location within an urban setting.

5. OTHER LEGISLATION, PLANS, PROCEDURES, PROGRAMS AND POLICIES

a. Food Security Act of 1985

The Food Security Act of 1985 (Farm Bill) encourages removal of marginal agricultural lands from production and provides various opportunities for wetland habitat protection and restoration while reducing Federal subsidy costs. Sections 1314 (Disposition and Leasing of Farmland) and 1318 (Farm Debt Restructure and Conservation Set-Aside) of the Farm Bill offer opportunities through acquisitions (e.g., fee title, conservation easement, deed restrictions, leases) to protect fish and wildlife resources.

Under section 1314, local or State governments or private non-profit organizations may obtain easements, deed restrictions or the equivalent for conservation purposes on Farmers Home Administration (FmHA) inventory lands prior to resale. FmHA has acquired over 1.7 million acres of inventory lands through voluntary conveyance and non-FmHA initiated foreclosure proceedings. Once acquired, FmHA seeks to resell

these lands to eligible farmers or other entities. These inventory lands include existing and restorable wetland habitats of local, regional, State, national and international importance.

Under a Memorandum of Understanding between the FmHA and Service, the Service has an opportunity to screen all inventory lands, identify important wetland protection opportunities and formulate and implement, or sponsor third party implementation of, mutually acceptable plans for wetland preservation and enhancement. The Service estimates that more than 200,000 acres of wetlands may be preserved and enhanced through cooperative Federal, State and private group efforts under this provision.

Once the Farm Debt Restructure and Conservation Set-Aside provision (loan servicing) becomes operational, wetlands on private lands may be set aside in conservation easements, in exchange for debt relief to the landowners.

The driving wetland protection tool for FmHA inventory land and loan servicing is the Executive Order on Protection of Wetlands (11990) which establishes Federal policy to conserve wetlands regardless of any priority system. Therefore, virtually all wetlands are eligible for protection and possible enhancement on inventory lands and through loan servicing and the process of prioritization need not be pursued in most cases. However, the NWPCP criteria could be applied to wetlands in the FmHA inventory to identify those warranting priority consideration (including restorable wetlands) for acquisition by local conservation entities, State fish and wildlife agencies and private conservation organizations.

Section 616 of the Agricultural Credit Act of 1987 authorizes the Secretary of the Department of Agriculture to transfer lands, or interest therein, to Federal or State agencies for conservation purposes. The NWPCP would be useful for identifying wetlands that warrant protection and/or management through this land transfer process.

b. Section 906(e) of the Water Resources Development Act of 1986

Section 906(e) of the Water Resources Development Act of 1986 provides that, in those cases when activities to enhance fish and wildlife resources are recommended as part of any report to Congress, the first cost shall be Federal when:

- the enhancement provides benefits that are determined to be national, including benefits to species identified by the National Marine Fisheries Service as of national economic importance, species subject to treaties or international conventions involving the U.S., and anadromous fish;

- o it is designed to benefit threatened or endangered species under the Endangered Species Act; and
- o activities are located on lands managed as a National Wildlife Refuge.

Section 906(e) deals with activities that are taken to benefit certain categories of species. Thus, such actions could be those taken to restore, improve and conserve habitats that support species that meet the criteria of section 906(e). Many wetlands fall under this category and should be included because actions taken to enhance wetlands would provide benefits that are national.

The Act indicates Congressional intent that wetlands are a significant resource of national importance that deserve protection. Most of the criteria contained in section 906(e) are also contained in the Act. Thus, the Act contains statements relating to wetlands that complement the provisions of section 906(e). Wetlands represent a habitat type that could fulfill the requirements of section 906(e). Hence, wetlands appearing on a list in a Concept Plan should meet the requirements for first costs of enhancement actions (including acquisitions) being Federal.

c. The Service's Land Acquisition Program and Land Acquisition Priority System

The Service has an on-going land acquisition program that is authorized by the Migratory Bird Conservation Act, Endangered Species Act, Fish and Wildlife Act of 1956 and Fish and Wildlife Coordination Act. Funding for acquisition of lands is authorized by the Migratory Bird Hunting and Conservation Stamp (Duck Stamp) Act, Wetlands Loan Act and LWCF Act. Section 302 of the Emergency Wetlands Resources Act allows appropriation under the LWCF Act for purchase of wetlands and also removes the restriction on the use of LWCF appropriations for Service acquisition of migratory waterfowl areas.

The Service has a migratory bird land acquisition program that is funded through the Duck Stamp Act and Wetlands Loan Act. Priority has been given to acquisition of wetlands and adjacent uplands of breeding and/or wintering importance to migratory waterfowl (i.e., ducks, geese and swans). The Service and Canadian Wildlife Service also cooperated to prepare the North American Waterfowl Management Plan (Waterfowl Plan) which serves as a guide for participation by various private organizations and the public in the conservation and management of waterfowl, especially through the protection and wise use of wetlands. The Emergency Wetlands Resources Act exempts wetland acquisitions using Migratory Bird Conservation Fund appropriations from being consistent with the NWPCP.

In response to budgetary questions raised by the Department, Office of Management and Budget, and Congress concerning the manner in which

the Service determined acquisition priorities, the Service developed the Land Acquisition Priority System to provide an objective and uniform approach for establishing Service land acquisition priorities. LAPS is designed to result in a prioritized ranking of projects to assist decisionmakers in acquisition planning and developing budget proposals.

LAPS addresses land acquisition projects falling within four Service target (i.e., resource planning) areas: endangered species (SE); migratory birds (MB); nationally significant wildlife habitats (NSWH); and nationally significant wetlands (NSW). LAPS provides numerical project and budget scores that can be compared for ranking purposes. For the species-related targets (SE and MB), criteria under habitat and species categories are applied to species or populations known to use a proposed acquisition site. For habitat-related targets (NSWH and NSW), criteria are applied to a proposed project area under diversity of species or Service objectives and habitat trends categories.

The NSW target was developed to be consistent with the Act and has been modified to be consistent with the final NWPCP. The NSW target addresses acquisition of wetlands for all the services and products they provide without greater priority consideration given to one functional value over another.

Service Regional Wetlands Concept Plans will provide lists of wetland sites in each State warranting consideration for acquisition. The NSW target of LAPS will be used to rank wetlands appearing on lists in the Concept Plans for acquisition planning and budgeting purposes.

d. Fish and Wildlife Service Mitigation Policy

The Service Mitigation Policy (*Federal Register* 46(15), January 23, 1981), provides a systematic method to determine appropriate mitigation for fish and wildlife impacts resulting from development projects. Mitigation elements include avoiding the impact, minimizing the impact by selecting least damaging alternatives, rectifying the impact by repairing or restoring the environment, and replacing unavoidable habitat losses based on the relative value of the affected habitat.

In those cases where application of the Service Mitigation Policy indicates that acquisition with restoration or enhancement as compensatory mitigation is acceptable, wetlands meeting NWPCP Threshold Criteria or appearing on State or Federal lists developed in consistency with the NWPCP should be evaluated and recommended by the Service.

e. EPA Regional Priority Wetland Lists

Each of the EPA's 10 Regional Offices has prepared or is currently developing a list of priority wetlands within its Region. These lists seek to identify the most valuable and vulnerable wetlands based on input from the Department of the Interior and other agencies and organizations.

The purpose of the lists is to assist EPA in focusing wetland protection efforts under the section 404 regulatory program. These authorities include section 230.80 of the Guidelines, section 404(c) actions (both in response to and in advance of permit applications), section 404(q) elevations and actions under the National Environmental Policy Act, and section 309 of the Clean Air Act.

The EPA has determined that there will be no ranking among wetlands and that the Regional Priority Wetland Lists will be periodically updated. These lists will provide an important source of information concerning wetlands that may warrant consideration for acquisition under the NWPCP. However, the EPA Regional Priority Wetland Lists will differ from the lists generated through the Service Regional Wetlands Concept Plans. The lists will be similar in that they are fundamentally based on identifying wetlands that are both valuable and threatened. They will be vastly different in their management orientation to these wetlands. The EPA lists emphasize regulatory efficiency, and Service lists will be based on eventual acquisition as the best alternative for long-term protection or realization of public values. Particular wetland sites may be added to or removed from either or both the Service or EPA lists depending on factors such as changing threats or effectiveness of regulatory efforts.

Environmental Protection Agency and Service Regional Office staff should meet informally several times each year to discuss the Concept Plans and EPA Regional Priority Wetland lists. The focus should be on the interrelationships between these priority listing efforts and how regulatory or acquisition activities of the respective agencies can complement each other for more effective wetland protection.

f. List of Wetlands of International Importance

The NWPCP can also help in the early identification of wetlands of international importance. The Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Convention) is an international treaty which provides the framework for international cooperation to conserve wetland habitats. The Convention places obligations on contracting parties (nations) relating to wetland conservation and specifies that each party shall designate suitable wetlands within its territory for inclusion in a List of Wetlands of International Importance (International List). Placing a wetland site on the International List, however, affects neither the management regime for the area nor resource

use within it. The U.S. sees the Convention as another important public awareness tool to highlight various wetland values.

The Convention came into force in 1975. The United States signed the Convention in 1985. By December 1986, 44 nations had joined and designated 358 wetlands on the International List. The U.S. Senate ratified the Convention in October 1986 and four U.S. wetland sites (Ash Meadows National Wildlife Refuge (NWR), Nevada; Edwin B. Forsythe NWR, New Jersey; Izembek NWR, Alaska; and Okefenokee NWR, Georgia and Florida) were added to the International List in December 1986. The U.S. became a full member to the Convention on April 8, 1987. The U.S. nominated two additional sites, State- and Federally-owned wetlands within the Chesapeake Bay ecosystem and the Everglades National Park, for addition to the International List, at the Convention meeting held in Regina, Canada from May 27 to June 5, 1987.

Wetlands of International Importance are identified by using the 1987 Regina criteria (Appendix 2) which superseded the 1980 Cagliari criteria. A wetland site must meet any one (or any subpart of a criterion) of the three criteria to qualify for nomination as a wetlands of international importance. Members to the convention nominate wetlands that meet the criteria but the wetland site is not actually designated as a wetlands of international importance until it is approved by member parties to the Convention. At the May-June 1987 Regina meeting, a definition for wise use of wetlands and guidelines for the application of criterion 1 were adopted. A meeting was held in Costa Rica in January 1988 to review the Regina criteria and prepare further recommendations, and develop guidelines regarding the wise use of wetlands.

Wetlands meeting criteria for inclusion on a list appearing in a Concept Plan may also satisfy criteria that would qualifying them to be considered for inclusion on the International List. However, a wetland site should be secure from threat of loss or major external impact (e.g., in public or private ownership and managed for conservation purposes) prior to eventual nomination to the International List. The Service, after coordination with appropriate State and Federal agencies and private organizations, will identify wetlands under the NSW Target in LAPS that meet the criteria for consideration to be nominated to the International List.

g. National Natural Landmark Program

The National Park Service administers the National Natural Landmark Program which strives to identify the best examples of natural systems. Natural Landmarks are nominated, studied and designated by the National Park Service according to a classification system which includes natural regions (e.g., Appalachian Ranges, Mohave-Sonoran Desert, Virgin Islands) and resource types (e.g., aquatic community, estuary, cave, river). Some sites are already in public ownership, others

are privately owned, some are threatened and some are relatively secure. Wetland sites identified by the National Park Service in the list of National Natural Landmarks that are threatened are likely candidates for acquisition consideration.

h. Natural Heritage Program

The Nature Conservancy coordinates the efforts of 47 State Natural Heritage Programs which identify ecologically significant natural areas in their respective States. In most States, the Natural Heritage Program is a statewide inventory of rare plants and animals and the best examples of ecological communities. Data include computerized records of these resources, maps, biological survey and descriptive information, identification of threats, management needs and local land use and planning activities. Many identified natural areas are superior examples of all communities, including rare types. Those areas containing threatened wetland sites are likely candidates for acquisition consideration.

i. North American Waterfowl Management Plan

The North American Waterfowl Management Plan (Waterfowl Plan), released in May 1986, was developed to address the need for protecting, restoring and managing wetlands of importance to waterfowl and other wildlife species in light of significant losses and degradation of wetlands across the continent. The Waterfowl Plan provides a broad policy framework with general guidelines for waterfowl habitat protection and management actions. Thirty-four waterfowl habitat areas of major concern are identified in the U.S. and Canada. Among these areas, special priority was directed in the U.S. to the Prairie Pothole Region, the Lower Mississippi River Delta and Gulf Coast Region, Central Valley of California, the Atlantic Coast, and Great Lakes-St. Lawrence lowlands.

The Waterfowl Plan addresses the need to influence land use practices throughout the continent and recognizes that fee acquisition is not the sole solution to the wetland loss problem. Other resource protection and management options are emphasized. It is also recognized in the Waterfowl Plan that a long-term solution to the problem of declining waterfowl populations must involve the coordinated action of Federal, State and local agencies, private organizations, landowners and the general public.

The NWPCP and Waterfowl Plan were developed independently, having two different specific identified purposes. The NWPCP addresses setting priorities for wetland acquisition based on considering equally all functions and values. The Waterfowl Plan addresses public and private efforts to conserve and manage waterfowl; wetland acquisition in specifically identified habitat areas of concern is one recommended option to accomplish the Waterfowl Plan goals. Although these plans have

some overlapping objectives and can be used to complement each other during wetland protection efforts, there will be differences in acquisition priorities. For example, NWPCP priority wetlands can not be restricted solely to Waterfowl Plan habitat areas of concern because the Act requires that no one function or value be given greater priority consideration than another. The NWPCP may be used, however, to assist the Service in meeting Waterfowl Plan objectives. Also, as a planning tool, this NWPCP could broaden public support for Service waterfowl protection efforts by showing accountability for all wetland functions and values during the acquisition planning process.

6. Information Sources

Users of the NWPCP may want to consult appropriate agencies having professional expertise to address or answer some of the Threshold Criteria questions or statements. For example, it may be desirable to consult the Corps of Engineers regarding a flood control question, or the EPA or a State Water Quality Control Board regarding a water quality question.

Potential sources of wetland information or expertise that could be helpful in identifying the types and locations of wetlands warranting acquisition consideration include (this list was modified from a list compiled by the U.S. Environmental Protection Agency, 1987):

- U.S. Fish and Wildlife Service NWI maps may be available for a wetland assessment site or area. Information on how to order maps may be obtained by calling 1-800-USA-MAPS. Alternatively, assistance concerning NWI maps or the Service's wetlands classification system may be obtained by writing or calling an NWI Regional Coordinator located within each Service Regional Office. (The addresses and telephone numbers for Regional Offices are given at the end of this section).
- The U.S. Fish and Wildlife Service's Wetland Values Bibliographic Data Base provides references to articles on wetlands organized into 13 information fields, including location. Nearly 5000 articles are included. (For information on use of the data base, contact the Service at (813) 893-3624 or FTS 826-3867).
- Special aquatic sites over EPA's designated Sole Source Aquifers. (For further information, call EPA at (202) 382-5530).
- State Water Quality Management Plans required in accordance with section 303(3) of the Clean Water Act and Federal Regulation 40 CFR 130.6. These plans have information on ground and surface water quality, wildlife resources, including endangered species, and commercial and sport fisheries.

- Wetlands included in the approximately 40 State Natural Heritage or Heritage Trust Program inventories or priority lists.
- Wetlands listed by The Nature Conservancy and its State chapters.
- Wetlands identified as important by State fish and wildlife agencies.
- Wetlands identified in Bureau of Land Management planning documents as Areas of Critical Environmental Concern.
- Wetlands identified by the National Oceanic and Atmospheric Administration/National Marine Fisheries Service. (Refer to Alexander et al., 1986 and Lindall and Thayer, 1982 in the References section.)
- Wetlands identified in U.S. Forest Service Forest Plans.
- Wetland areas identified in federally approved State Coastal Zone Management Plans.
- Important wetland areas situated downstream from, and vulnerable to, hazardous waste sites on EPA's National Priority List.
- Wetlands of special significance listed under State wetlands protection programs, (e.g., New York State's Freshwater Wetlands Classification System).
- Wetlands identified in U.S. Fish and Wildlife Service "Concept Plans for Waterfowl Habitat Preservation."
- Wetland areas identified in the North American Waterfowl Management Plan.
- Wetlands identified as being important to a federally listed threatened or endangered species in the Endangered Species Information System (ESIS) maintained by the U.S. Fish and Wildlife Service. (For further information, contact the appropriate Service Regional Office - see list at end of this section).
- Wetlands listed under State Critical Area Programs, e.g., Massachusetts' Areas of Critical Environmental Concern, Maryland's Chesapeake Bay Critical Areas Program, Maine's Critical Area Program.
- Wetlands included in the Department of the Interior's 1979 National Wild and Scenic Rivers Inventory. (For further information, contact the NPS at (202) 343-3761).
- Wetlands included as scenic rivers within approximately 30 State Wild and Scenic Rivers Programs. (For further information, contact the Association of State River Planners, Department of Environmental Conservation, N.Y. State at (518) 457-7433).
- Wetlands identified as important by State Reclamation Commission Water Resource Divisions.
- Wetlands identified as important by U.S. Fishery or River Basin Commissions, (e.g., the Atlantic States Marine Fisheries

Commission, the Great Lakes Commission, Great Lakes Fishery Commission, Gulf States Marine Fisheries Commission).

- Wetlands identified as important by the Extension Service in each State land grant university. (For further information, contact the USDA, Extension Service at (202) 447-5468).

U.S. Fish and Wildlife Service Regional Offices

REGION 1
Regional Director
U.S. Fish and Wildlife Service
1002 Northeast Holladay Street
Portland, OR. 97232-4181

Telephone: 503-231-6158
8-429-6119

Jurisdiction
Wash., Oregon, Calif., Idaho, Nevada, Hawaii, Pacific Trust Territories

REGION 2
Regional Director
U.S. Fish and Wildlife Service
P.O. Box 1306
Albuquerque, N.M. 87103

Telephone: 505-766-2932
8-474-2321

Jurisdiction
Arizona, N. Mexico, Oklahoma, Texas

REGION 3
Regional Director
U.S. Fish and Wildlife Service
Federal Building, Fort Snelling
Twin Cities, MN. 55111

Telephone: 612-725-3510
8-725-3510

Jurisdiction
Iowa, Illinois, Indiana, Michigan, Minnesota, Missouri, Ohio, Wisconsin

REGION 4
Regional Director
U.S. Fish and Wildlife Service
Richard B. Russell Building
75 Spring Street, S.W., Suite 1726
Atlanta, GA. 30303

Telephone: 404-221-6343
8-242-3588

Jurisdiction
Alabama, Arkansas, Florida, Kentucky, Louisiana, Mississippi North Carolina, Puerto Rico, South Carolina, Tennessee, Virgin Islands

REGION 5
Regional Director
U.S. Fish and Wildlife Service
One Gateway Center, Suite 700
Newton Corner, MA. 02158
Telephone: 617-965-5100
8-829-9200

Jurisdiction
Connecticut, Deleware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Virginia, Vermont, West Virginia.

REGION 6
Regional Director
U.S. Fish and Wildlife Service
P.O. Box 25486
Denver, CO. 80225
Telephone: 303-324-4169
8-776-7920

Jurisdiction
Colorado, Kansas, Montana, North Dakota, Nebraska,South Dakota, Utah, Wyoming

REGION 7
Regional Director
U.S. Fish and Wildlife Service
1011 East Tudor Road
Anchorage, AK. 99503
Telephone: 907-768-3537

Jurisdiction
Alaska

H. REVIEW AND REVISION

A draft NWPCP, dated September 1, 1987, was circulated to appropriate Federal agencies, all States and territories and several environmental groups for formal review on October 7, 1987. Comments on the NWPCP were received from 33 States, 2 territories, 10 Federal agencies and 3 environmental groups. In general, many of those commenting indicated that the draft NWPCP was well-organized, thorough, flexible, workable and in compliance with the Act. Many substantive comments were received that reflected Federal and State agency and environmental group concerns about specific wording within, components of, or recommended additions or changes to the NWPCP. The NWPCP has been revised to reflect various review comments.

The general implementation time frame for the NWPCP and SCORP wetlands components is indicated in Figure 3. The temporal relationship of the National Park Service, State SCORP programs and Fish and Wildlife Service actions under sections 301 and 303 of the Act are illustrated there.

The NWPCP will be reviewed and revised in Fiscal Year 1991 to reflect new or updated scientific, administrative and user information, especially concerning wetland resource functions and values, wetland scarcity and changing vulnerability of wetlands to losses. Service Regional Wetlands Concept Plans will be updated, as appropriate, to reflect changes in listed wetland sites and/or revisions to the NWPCP. As a minimum, revisions to the NWPCP and Concept Plans will involve consultation, as appropriate, with the Bureau of Land Management, Corps of Engineers, Environmental Protection Agency, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, National Park Service, U.S. Forest Service and State clearing houses.

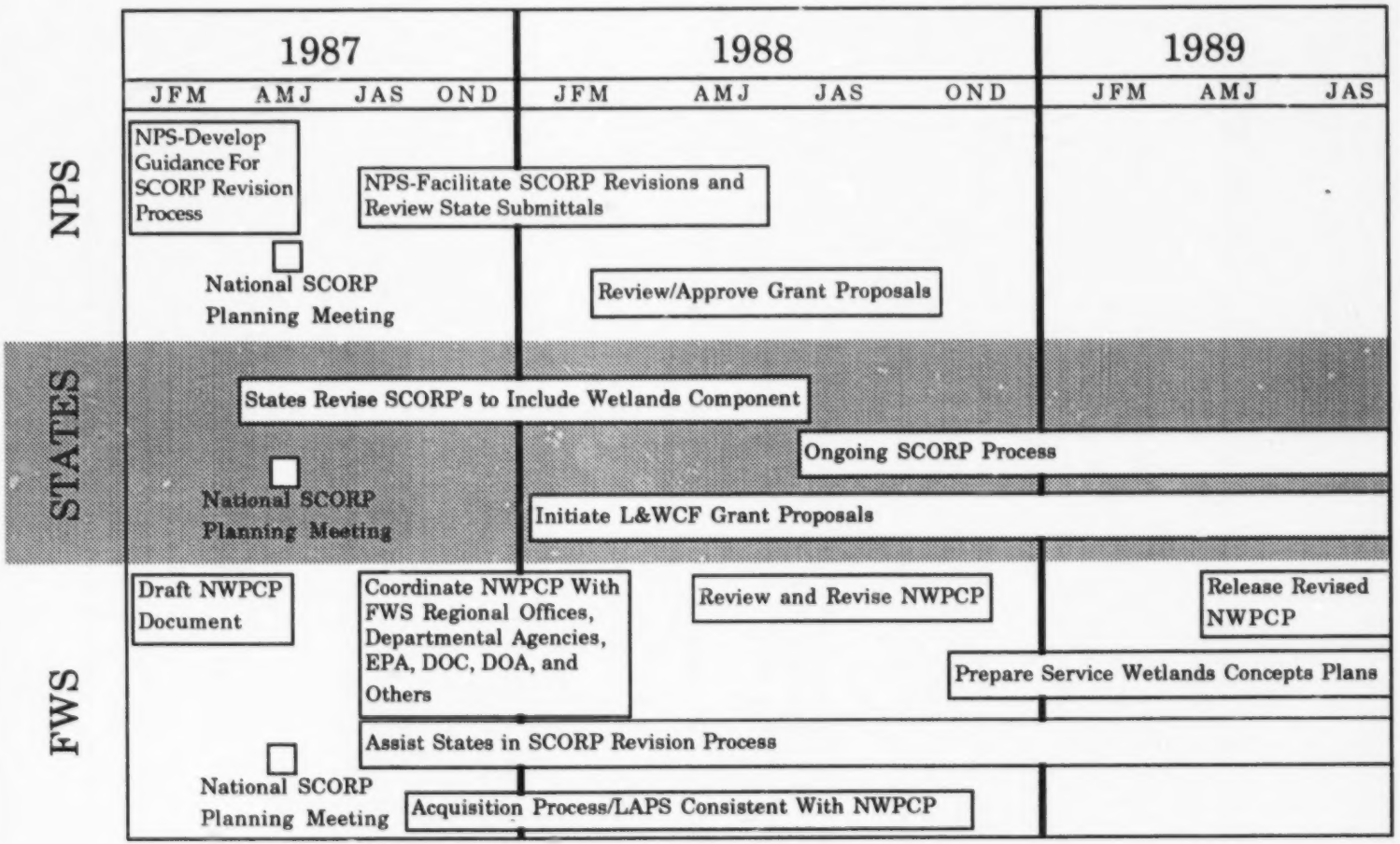
1987
1988
1989
JFM AMJ JAS OND JFM AMJ JAS OND JFM AMJ JAS
NPS
NPS-Develop Guidance For SCORP Revision Process
NPS-Facilitate SCORP Revisions and Review State Submittals
National SCORP Planning Meeting
Review/Approve Grant Proposals
STATES
States Revise SCORP's to Include Wetlands Component
Ongoing SCORP Process
National SCORP Planning Meeting
Initiate L&WCF Grant Proposals
FWS
Draft NWPCP Document
Coordinate NWPCP With FWS Regional Offices, Departmental Agencies, EPA, DOC, DOA, and Others
Review and Revise NWPCP
Release Revised NWPCP
Prepare Service Wetlands Concepts Plans
Assist States in SCORP Revision Process
National SCORP Planning Meeting
Acquisition Process/LAPS Consistent With NWPCP

Figure 3: Time Frame for Implementation of the National Wetlands Priority Conservation Plan

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J. DEFINITIONS

The National Wetlands Priority Conservation Plan uses wetlands terminology from the Service's wetlands classification system developed by Cowardin *et al.* (1979), except for the following definitions specified in section 301 of the Act:

WETLAND - Land that has a predominance of hydric soils that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions.

HYDRIC SOIL - Soil that, in its undrained condition, is saturated, flooded, or ponded long enough during a growing season to develop an anaerobic condition that supports the growth and regeneration of hydrophytic vegetation.

HYDROPHYTIC VEGETATION - A plant growing in:

a. water or
b. a substrate that is at least periodically deficient in oxygen during a growing season as a result of excessive water content.

ACQUISITION - As used in the National Wetlands Priority Conservation Plan, any purchase of complete or partial interest in a wetland site obtained with total or partial Federal funding.

DOCUMENTABLE INFORMATION - Information or data collected and/or published by an individual, group, organization, institution or agency and used as an objective basis for establishing wetland functions and values, threats and losses.

ECOREGION - Continuous geographical areas characterized by distinctive flora, fauna, land forms, climate, vegetation and ecological climax. Refer to Bailey (1978) for additional definition.

EMERGENCY WETLANDS RESOURCES ACT (Act) - The Public Law (99-645) enacted in 1986 authorizing a variety of measures, including establishing the National Wetlands Priority Conservation Plan, to promote the conservation of wetlands in the United States.

HISTORIC WETLAND LOSSES - The losses of wetlands from a particular site or loss of a specific type of wetlands within a region from the time of European settlement through the present.

INDEX OF LOSS - Measure of loss of a wetland type within an ecoregion expressed by the equation:

$$\frac{([Y-X][100])}{N} \times \frac{([Y-X][100])}{Y}; \text{ or } \frac{(\text{Unit Loss} \times 100)}{\text{Net National Loss}} \times \frac{(\text{Unit Loss} \times 100)}{\text{1954 Unit Base}}$$

Where, Y = 1954 Unit Base acreage per wetland type and unit area

X = 1974 Remaining acreage per wetland type and unit area

Y-X = Unit Loss (e.g., 1954-74 State loss per wetland type)

N = 1954-74 Net National Loss per wetland type

Unit = Area of comparison (e.g., ecoregion, State)

Base = Acres of wetlands in 1954 for the unit

INTERESTS IN WETLANDS - The financial interest in wetland acquisition including, but not limited to, fee title acquisition, perpetual conservation easements, deed restrictions or other methods. Adjacent associated uplands essential to protecting wetland values are also included.

NATIONAL WETLANDS INVENTORY PROJECT (NWI) - A long term inventory and mapping effort of the Nation's wetlands being conducted by the Fish and Wildlife Service. As of 1988, approximately 55 percent of the wetlands in the conterminous United States had been mapped. Mapping in the conterminous United States is projected to be completed by 1998.

NATIONAL WETLANDS PRIORITY CONSERVATION PLAN (NWPCP) - The plan referenced in section 301 of the Act, established and periodically updated by the Secretary of the Interior, which specifies the locations and types of wetlands and interests in wetlands that should be given priority consideration with respect to Federal and State acquisition.

RARE - Wetland types that are uncommon or seldom occur in the ecoregion.

RESTORABLE WETLANDS - Wetlands having functions and values diminished by human impacts that can be restored through various management techniques.

SECRETARY - The Secretary of the Department of the Interior.

SERVICE REGIONAL WETLANDS CONCEPT PLANS (Concept Plans) - Wetlands Concept Plans developed by the Regional Offices of the Fish and Wildlife Service to implement the NWPCP for that agency. They will be prepared to address wetlands within each Service Region on a state-by-state basis and will include an unranked listing of wetland sites which meet the Wetlands Assessment Threshold Criteria established by the NWPCP. These Concept Plans: will be prepared in cooperation with various Federal and State agencies, including fish and wildlife

departments; will complement the State SCORP wetlands planning documentation; and will constitute the feeder list of wetland sites proposed for acquisition by the Fish and Wildlife Service.

STATE WETLANDS PRIORITY PLAN - The planning document which is required by section 303 of the Act as an addendum to a Statewide Comprehensive Outdoor Recreation Plan in lieu of revising the Statewide Comprehensive Outdoor Recreation Plan to include a wetlands component.

STATEWIDE COMPREHENSIVE OUTDOOR RECREATION PLAN (SCORP) - The State planning process required by the Land and Water Conservation Fund Act for State participation in the grant program administered by the National Park Service.

THREAT - The likelihood that a wetland site, or portion thereof, will be destroyed or degraded, directly or indirectly, through human actions. In establishing the threat threshold for the NWPCP in Appendix 1, a wetland site is considered to be threatened if an estimated > 10 percent of the site's functions and values are likely to be destroyed or adversely affected through direct, indirect, or cumulative impacts over the next ten years considering:

1. the array of potential wetland threats; and
2. the probable degree of protection provided by the various relevant laws, ordinances and regulations.

TYPES OF WETLANDS - Those classifications of wetlands based on physical, botanical and hydrological characteristics. The classification system described by Cowardin *et al.* (1979) will serve as the basis for determining types of wetlands within any given region.

WETLANDS ASSESSMENT THRESHOLD CRITERIA (Threshold Criteria) - A series of questions or statements provided to help NWPCP users determine if a wetland site qualifies for acquisition consideration based on wetland loss trends by type, threat of loss or degradation of the wetland site and the importance or significance of the wetland's functions and values.

WETLAND FUNCTIONS AND VALUES - The various products, services, functions and values which wetlands provide to society, including fish and wildlife habitat, water supply, improvement of water quality, flood control, erosion and shoreline protection, outdoor recreation opportunities and education and research.

WETLAND LISTS - As used in the NWPCP, lists of wetlands will be included, as appropriate, in both State SCORP documents and Service Regional Wetlands Concept Plans. These lists will indicate wetlands which meet the Threshold Criteria set forth in the NWPCP. They are not

necessarily lists of wetlands for purchase, but lists of wetlands qualifying for purchase.

WETLAND SITE - An identifiable property, tract, area, or region containing wetlands or a complex (aggregation) of physically- or functionally-related wetlands. A wetland site may contain a variety of wetland types, interspersed habitat of other types and associated upland buffer areas. The boundary of the site should be specific and as geographically restricted as practical, determined by application of sound acquisition principles. In other words, regardless of size, a wetland site should be treated in terms of a unit which would generally fit the acquisition goals, process and needs of the user.

K. APPENDICES

Appendix 1 — *Wetlands Assessment Threshold Criteria*

Appendix 2 — *Criteria for Identifying Wetlands of International Importance*

Appendix 3 — *Emergency Wetlands Resources Act of 1986*

APPENDIX 1

NATIONAL WETLANDS PRIORITY CONSERVATION PLAN

WETLANDS ASSESSMENT THRESHOLD CRITERIA

NATIONAL WETLANDS PRIORITY CONSERVATION PLAN
WETLANDS ASSESSMENT THRESHOLD CRITERIA

INSTRUCTIONS: Complete this page to determine whether a wetland site (refer to Wetlands Profile guidance) qualifies for acquisition consideration under the National Wetlands Priority Conservation Plan.

Use the attached guidance for estimating wetland losses, threats and functions and values thresholds. The guidance is organized in the same sequence as the threshold criteria and will direct the user to an appropriate conclusion. Complete all questions and statements.

1. WETLANDS PROFILE:

a. Wetland Site Name:_____ File No:____

b. USGS 1:24,000 Map Quadrangle Name:_____

c. Township:_____; Section:_____

d. Longitude:_____; Latitude:_____

e. City:_____; County:_____; State:_____

f. Ecoregion: _____ (refer to Cowardin *et al.*, 1979, p.27).

g. Size: _____(acres). Date of wetlands assessment:_____

2. WETLAND LOSS PRIORITY: (circle one) 1 2 3 4 5
Must be priority level 1, 2 or 3 to meet threshold.

3. IS THE WETLAND SITE THREATENED? (refer to the attached guidance under Wetland Threats) Must be circled "yes" to meet threshold.

YES NO

4. WETLAND FUNCTIONS AND VALUES

Check all that apply. Must check at least two to meet threshold.

___ a. Wildlife
___ b. Fisheries
___ c. Water Supply/Quality, Flood and Erosion Protection
___ d. Outdoor Recreation
___ e. Other Areas or Concerns _____

5. CONCLUSION

_____ Yes, wetland site meets all threshold criteria and qualifies for acquisition consideration under provisions of the National Wetlands Priority Conservation Plan.

_____ No, wetland site does not meet all threshold criteria and therefore does not qualify for acquisition consideration under provisions of the National Wetlands Priority Conservation Plan.

GUIDANCE FOR ESTIMATING WETLAND LOSSES, THREATS AND VALUES THRESHOLDS

1. WETLANDS PROFILE

Complete items (a) through (g) to give a name and address to each wetland site.

For the purpose of the National Wetlands Priority Conservation Plan, a wetland site is an identifiable property, tract, area, or region containing wetlands or a complex (aggregation) of physically- or functionally-related wetlands. A wetland site may contain a variety of wetland types, interspersed habitat of other types and associated upland buffer areas. The boundary of the site should be specific and as geographically restricted as practical, determined by application of sound acquisition principles. In other words, regardless of size, a wetland site should be treated in terms of a unit which would generally fit the acquisition goals, process and needs of the user.

2. WETLAND LOSSES

Wetlands will be classified as follows: System, subsystem, class and water regime according to Cowardin *et al.*, 1979 (refer to key on next page). Estimate percent of site for each type.

TYPE			PERCENT OF SITE
system	***subsystem***	***class*** / ***water regime***	
a. ___ : ___ : ___ ___ : ___			___ %
b. ___ : ___ : ___ ___ : ___			___ %
c. ___ : ___ : ___ ___ : ___			___ %
d. ___ : ___ : ___ ___ : ___			___ %
e. ___ : ___ : ___ ___ : ___			___ %
f. ___ : ___ : ___ ___ : ___			___ %
g. ___ : ___ : ___ ___ : ___			___ %
h. ___ : ___ : ___ ___ : ___			___ %
i. ___ : ___ : ___ ___ : ___			___ %
j. ___ : ___ : ___ ___ : ___			___ %
k. Upland		Total 100 %	___ %

Example:

	System:	Estuarine
E:2:E M:N	*Subsystem*:	Intertidal
	Class:	Emergent
	Water Regime:	Regularly Flooded

Letter and number key for classification of wetlands to the level of water regime:

SYSTEMS AND SUBSYSTEMS

M Marine
- 1 Subtidal
- 2 Intertidal

R Riverine
- 1 Tidal
- 2 Lower Perennial
- 3 Upper Perennial
- 4 Intermittent
- 5 Unknown Perennial

E Estuarine
- 1 Subtidal
- 2 Intertidal

L Lacustrine
- 1 Limnetic
- 2 Littoral

P Palustrine
- No Subsystem

Upland

CLASSES

AB	Aquatic Bed	**RS**	Rocky Shore
EM	Emergent	**SB**	Streambed
FO	Forested	**SS**	Scrub-Shrub
ML	Moss/Lichen	**UB**	Unconsolidated Bottom
RB	Rocky Bottom	**US**	Unconsolidated Shore
RF	Reef		

WATER REGIME MODIFIERS

A	Temporary	**J**	Intermittently Flooded
B	Saturated	**L**	Subtidal
C	Seasonal	**M**	Irregularly Exposed
F	Semipermanent	**N**	Regularly Flooded
G	Intermittently Exposed	**P**	Irregularly Flooded
H	Permanent		

Wetland losses by type. Determine whether the wetland types identified above are decreasing, stable or increasing. Apply to the formula and priority table on the next page.

If supportable information is available to substantiate trends for various wetland types other than that shown by the NWI trends study, this

information may be used to support departures from the trends groupings presented above.

Explain:_____
_____
_____
_____
_____

In the absence of more reliable data, the following conclusions based on Frayer et al. (1983) may be used:

Decreasing: Palustrine emergent
Palustrine forested
Palustrine scrub-shrub
Estuarine intertidal emergent
Estuarine intertidal forested
Estuarine intertidal scrub-shrub
Marine intertidal

Stable: Estuarine intertidal non-vegetated
Estuarine subtidal
Lacustrine

Increasing: Palustrine open water
Palustrine unconsolidated shore
Palustrine non-vegetated

Decreasing wetland types	____ % OF SITE X 1 = ____
Stable wetland types	____ % OF SITE X 2 = ____
Increasing wetland types	____ % OF SITE X 3 = ____
Uplands	____ % OF SITE X 3 = ____
	TOTAL _____

a. Priority 1 (0-139)
b. Priority 2 (140-179)
c. Priority 3 (180-219) **WETLAND LOSS PRIORITY =**
_____
d. Priority 4 (220-259)
e. Priority 5 (260-300)

3. WETLANDS THREATS

For the purpose of the National Wetlands Priority Conservation Plan, threat is defined as the likelihood that a wetland site, or portion thereof, will be destroyed or degraded, directly or indirectly, through human actions.

In establishing the threat threshold, a wetland site is considered to be threatened if an estimated > 10 percent of the site's wetland functions and values are likely to be destroyed or adversely affected through direct, indirect, or cumulative impacts over the next ten years considering:

1. the array of potential wetland threats; and
2. the probable degree of protection provided by the various relevant laws, ordinances and regulations.

At a minimum, the following items should be considered when evaluating wetland threat (indicate activities that either destroy or degrade wetlands at the site):

a. ____ Drainage or filling
b. ____ Agricultural conversion or use
c. ____ Livestock grazing
d. ____ Groundwater withdrawal/depletion
e. ____ Loss of instream flows
f. ____ Residential or commercial development
g. ____ Oil, gas, mineral development
h. ____ Power plants
i. ____ Transportation (roads and bridges)
j. ____ Navigation project, port, marina or pier
k. ____ Water development project(s)
l. ____ Water pollution
m. ____ Other, (e.g., timber or vegetation removal, mosquito control practices, diverse ownership with no individual commitment to protection):_____

_____

Indicate all laws, ordinances or programs that have some degree of wetland protection potential for this site:

a. ____ Clean Water Act (Corps section 404 regulatory program)
b. ____ River and Harbor Act (Corps section 10 regulatory program)
c. ____ Endangered Species Act
d. ____ Water Resources Development Act of 1986
e. ____ Food Security Act of 1985
f. ____ Local zoning or ordinances (e.g., local wetland or floodplain zoning)

g. ____ State ordinances or authorities (e.g., State wetland protection laws, State permit program for activities in wetlands)
h. ____ Coastal Wetlands Protection Law
i. ____ Inland Wetlands Protection Law
j. ____ Owner(s) favors protection
k. ____ Other: _____

Considering the relative effectiveness of the combination of the above factors to protect the public values and services of the wetlands, is the wetland site threatened using the definition of threat?

YES NO

If yes, explain type, degree and imminence of threat:_____
_____
_____
_____
_____
_____

4. WETLAND FUNCTIONS AND VALUES

It is assumed that virtually all wetlands provide important public benefits in several functions and values categories. Many wetlands, however, have been recognized, identified and/or listed as having certain of these functions and values. In order to lead to greater objectivity and provide a technique for use by persons of many disciplines, this wetlands assessment method relies on documented data or information rather than allowing for interpretation by users across many disciplines.

Indicate all functions and values which can be attributed to the wetland site. If any of the statements within a category (wildlife, fisheries, water supply/quality, flood and erosion protection, outdoor recreation and other areas or concerns) is affirmative, check that category on the cover sheet, under item 4.

A. Wildlife (endangered and threatened species, migratory birds and resident species)

1.Y N Are Federal or State threatened or endangered plants or animals known to use the wetland site on a regular basis? If yes, list species names:_____
_____
_____

2. Y N Have any wildlife resources of the wetland site been recognized, identified, or listed by a Federal or State agency, conservation organization, institution (educational or research) or private group due to specific legislation, designations or management or planning documents (e.g., high wildlife value, declining populations/numbers, edge of range, Audubon Blue List, list(s) or species of special concern or emphasis)? If yes,list recognition: _____

_____

_____

3. Y N Has the wetland site been specially designated, or is it part of a region specially designated, by a Federal or State agency or private group as important for migratory birds or resident wildlife (e.g., referenced in the North American Waterfowl Management Plan or a State Waterfowl Concept Plan or on a list maintained by The Nature Conservancy? If yes, list designation:_____

_____

_____

B. Commercial and Sport Fisheries

1. Y N Does commercial fishing occur on the site? If so, name the fishery:_____

_____

2. Y N Does sport fishing occur on the site? If so, name the fishery:

_____

_____

3. Y N Does the wetland site have fishery resource value(s) (e.g. anadromous fishery, spawning, nursery, juvenile or foraging habitat) that is recognized, identified or listed by a Federal or State agency, conservation organization, institution or private group due to specific legislation, designations, or management or planning documents? If so, name recognition: _____

_____

_____

C. Surface and Ground Water Quality and Quantity and Flood Control

1. Y N Are the groundwater recharge and/or discharge (water supply) functions of the wetland site recognized, identified or listed by a

Federal, State, or local agency, conservation organization, institution or private group due to specific legislation, designations, or management or planning documents (e.g., sole source aquifer, municipal water supply)? If so, name recognition: _____

_____

_____

2. Y N Are the water quality functions (e.g., nutrient assimilation, sediment trapping, toxic substance uptake and transformation) of the wetland site recognized, identified or listed by a Federal, State, or local agency, conservation organization, institution or private group due to specific legislation, designations, or management or planning documents (e.g., presence of a downstream dredged channel or reservoir which requires periodic dredging, eutrophic waterbodies downstream, low dissolved oxygen problems, fish kills)? If so, name recognition:

_____

_____

_____

3. Y N Are the flood control, erosion and/or shoreline damage reduction functions of the wetland site recognized, identified or listed by a Federal, State, or local agency, conservation organization, institution or private group due to specific legislation, designations, or management or planning documents (e.g., flood control project, wetland site within the 100-year floodplain, identified by a city as important for coastal shoreline protection)? If so, name recognition: _____

_____

_____

D. Outdoor Recreation

1. Y N Is there a recognized or documented demand for the recreational opportunities available in the wetland site? If yes, explain:

_____

_____

2. Y N Is the wetland site within 50 miles of a Metropolitan Statistical Area or within 50 miles of a tourist area receiving more than 100,000 visitors per year? If yes, name location:_____

_____

_____

E. Other Areas or Concerns

1. Y N Does the wetland site have ecological or geological features consistently considered by regional scientists to be rare for wetlands in the region (e.g., fens in the midwest, cypress swamps in northern States, spring communities in various regions)? If yes, name the feature: _____
_____
_____

2. Y N Is the wetland site included in a national or statewide listing of historical or archaeological sites? If yes, name list:_____
_____
_____

3. Y N Is the wetland site being used, or could it be used, for educational or research purposes (e.g., used by a nature center, school, camp, or college, essential to an on-going environmental research or monitoring program)? If yes, name use:_____
_____
_____

4. Y N Does the wetland site have other public values of concern to the Secretary of the Interior? If yes, name and document:_____
_____
_____

5. Conclusion

To qualify for acquisition consideration under the provisions of the National Wetlands Priority Conservation Plan, a wetland site must: 1) include predominantly (50 percent or greater) wetland types which are rare or declining in the ecoregion; 2) be threatened with loss and/or degradation; and 3) offer important values to society in two identifiable functional categories. References, literature citations, agency contacts and personal communications must be provided to support the assessment and conclusions made in this checklist.

6. Map of Wetland Site

Reproduce and submit a USGS quadrangle map, National Wetlands Inventory Map or other appropriate map delineating the wetland site, its principal features where appropriate (e.g., bald eagle nest sites) and other relevant features of the assessment area where appropriate (e.g., downstream municipal water supply or public access point).

APPENDIX 2

CRITERIA FOR IDENTIFYING WETLANDS OF INTERNATIONAL IMPORTANCE

Regina, Canada 1987

REGINA CRITERIA

CRITERIA FOR IDENTIFYING WETLANDS OF INTERNATIONAL IMPORTANCE AND GUIDELINES ON THEIR USE

As Revised at the Third Meeting of the Conference of the Contracting Parties
27 May to 5 June 1987
Regina, Saskatchewan, Canada

A wetland is suitable for inclusion in the List if it meets any one of the criteria set out below:

1. Criteria for assessing the value of representative or unique wetlands.

   A wetland should be considered internationally important if it is a particularly good example of a specific type of wetland characteristic of its region.

2. General criteria for using plants or animals to identify wetlands of importance.

   A wetland should be considered internationally important if:

   (a) it supports an appreciable assemblage of rare, vulnerable or endangered species or subspecies of plant or animal, or an appreciable number of individuals of any one or more of these species;

   or (b) it is of special value for maintaining the genetic and ecological diversity of a region because of the quality and peculiarities of its flora and fauna;

   or (c) it is of special value as the habitat of plants or animals at a critical stage of their biological cycles;

   or (d) it is of special value for its endemic plant or animal species or communities.

3. Specific criteria for using waterfowl to identify wetlands of importance.

   A wetland should be considered internationally important if:

   (a) it regularly supports 20,000 waterfowl;

   or (b) it regularly supports substantial numbers of individuals from particular groups of waterfowl, indicative of wetland values, productivity or diversity;

   or (c) where data on populations are available, it regularly supports 1% of the individuals in a population of one species or subspecies of waterfowl.

Guidelines

A wetland could be considered for selection under Criterion 1 if:

(a) It is an example of a type rare or unusual in the appropriate biogeographical region;

or (b) it is a particularly good representative example of a wetland characteristic of the appropriate region;

or (c) it is a particularly good representative of a common type where the site also qualifies for consideration under criteria 2a, 2b, or 2c;

or (d) it is representative of a type by virtue of being part of a complex of high quality wetland habitats. A wetland of national value could be considered of international importance if it has a substantial hydrological, biological or ecological role in the functioning of an international river basin or coastal system;

or (e) in developing countries, it is a wetland which, because of its outstanding hydrological, biological or ecological role, is of substantial socioeconomic and cultural value within the framework of sustainable use and habitat conservation.

INFORMATION ON WISE USE OF WETLANDS SPECIFIED UNDER ARTICLE 3 OF THE RAMSAR CONVENTION

Definition of wise use:

"*The wise use of wetlands is their sustainable utilization for benefit of humankind in a way compatible with the maintenance of the natural properties of the ecosystem.*"

Sustainable utilization is defined as "human use of a wetland so that it may yield the greatest continuous benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations."

Natural properties of the ecosystem are defined as "those physical, biological or chemical components, such as soil, water, plants, animals and nutrients, and the interactions between them."

Guidelines

Wise use involves the promotion of wetland policies containing the following elements:

(a) a national inventory of wetlands;

(b) identification of the benefits and values of these wetlands;

(c) definition of the priorities for each site in accordance with the needs of, and socioeconomic conditions in, each country;

(d) proper assessment of environmental impact before development projects are approved, continuing evaluation during the execution of projects, and full account of the recommendations of this process of environmental assessment and evaluation.

(e) use of development funds for projects which permit conservation and sustainable utilization of wetland resources;

(f) regulated utilization of wild fauna and flora, such that these components of the wetland systems are not over-exploited.

When detailed policies are being established, action should be taken on:

(a) interchange of experience and information between countries seeking to elaborate national wetland policies;

(b) training of appropriate staff in the disciplines which will assist in elaboration of such policies;

(c) pursuit of legislation and policies which will stimulate wetland conservation action, including the amendment as appropriate of existing legislation;

(d) review of traditional techniques of sustainable wetland use, and elaboration of pilot projects which demonstrate wise use of representative national and regional wetland types.

APPENDIX 3

EMERGENCY WETLANDS RESOURCES ACT OF 1986

P.L. 99-645

Signed November 11, 1986

best copy available

Public Law 99-645
99th Congress

An Act

Nov. 10, 1986
[S. 740]

To promote the conservation of migratory waterfowl and to offset or prevent the serious loss of wetlands by the acquisition of wetlands and other essential habitat, and for other purposes.

Emergency Wetlands Resources Act of 1986.
16 USC 3901 note.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Emergency Wetlands Resources Act of 1986".

16 USC 3901.

SEC. 2. FINDINGS AND STATEMENT OF PURPOSE.

(a) FINDINGS.—The Congress finds that—

(1) wetlands play an integral role in maintaining the quality of life through material contributions to our national economy, food supply, water supply and quality, flood control, and fish, wildlife, and plant resources, and thus to the health, safety, recreation, and economic well-being of all our citizens of the Nation;

(2) wetlands provide habitat essential for the breeding, spawning, nesting, migration, wintering and ultimate survival of a major portion of the migratory and resident fish and wildlife of the Nation; including migratory birds, endangered species, commercially and recreationally important finfish, shellfish and other aquatic organisms, and contain many unique species and communities of wild plants;

(3) the migratory bird treaty obligations of the Nation with Canada, Mexico, Japan, the Union of Soviet Socialist Republics, and with various countries in the Western Hemisphere require Federal protection of wetlands that are used by migratory birds for breeding, wintering or migration and needed to achieve and to maintain optimum population levels, distributions, and patterns of migration;

(4) wetlands, and the fish, wildlife, and plants dependent on wetlands, provide significant recreational and commercial benefits, including—

(A) contributions to a commercial marine harvest valued at over $10,000,000,000 annually;

(B) support for a major portion of the Nation's multimillion dollar annual fur and hide harvest; and

(C) fishing, hunting, birdwatching, nature observation and other wetland-related recreational activities that generate billions of dollars annually;

(5) wetlands enhance the water quality and water supply of the Nation by serving as groundwater recharge areas, nutrient traps, and chemical sinks;

(6) wetlands provide a natural means of flood and erosion control by retaining water during periods of high runoff, thereby protecting against loss of life and property;

(7) wetlands constitute only a small percentage of the land area of the United States, are estimated to have been reduced by half in the contiguous States since the founding of our Nation, and continue to disappear by hundreds of thousands of acres each year;

(8) certain activities of the Federal Government have inappropriately altered or assisted in the alteration of wetlands, thereby unnecessarily stimulating and accelerating the loss of these valuable resources and the environmental and economic benefits that they provide; and

(9) the existing Federal, State, and private cooperation in wetlands conservation should be strengthened in order to minimize further losses of these valuable areas and to assure their management in the public interest for this and future generations.

(b) PURPOSE.—It is the purpose of this Act to promote, in concert with other Federal and State statutes and programs, the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions with Canada, Mexico, Japan, the Union of Soviet Socialist Republics, and with various countries in the Western Hemisphere by—

International agreements.
Canada.
Mexico.
Japan.
Union of Soviet Socialist Republics.

(1) intensifying cooperative efforts among private interests and local, State, and Federal governments for the management and conservation of wetlands; and

(2) intensifying efforts to protect the wetlands of the Nation through acquisition in fee, easements or other interests and methods by local, State, and Federal governments and the private sector.

SEC. 3. DEFINITIONS.

16 USC 3902.

For the purpose of this Act:

(1) The term "Committees" means the Committee on Merchant Marine and Fisheries and the Committee on Interior and Insular Affairs of the House of Representatives and the Committee on Environment and Public Works and the Committee on Energy and Natural Resources of the Senate.

(2) The term "designated unit" means a unit of the National Wildlife Refuge System designated by the Secretary under section 201(a)(2).

(3) The term "hydric soil" means soil that, in its undrained condition, is saturated, flooded, or ponded long enough during a growing season to develop an anaerobic condition that supports the growth and regeneration of hydrophytic vegetation.

(4) The term "hydrophytic vegetation" means a plant growing in—

(A) water; or

(B) a substrate that is at least periodically deficient in oxygen during a growing season as a result of excessive water content.

(5) The term "wetland" means land that has a predominance of hydric soils and that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions.

TITLE I—EXTENSION OF WETLANDS LOAN ACT

SEC. 101. EXTENSION OF WETLANDS LOAN ACT.

(a) AVAILABILITY OF APPROPRIATIONS.—The first section of the Act entitled "An Act to promote the conservation of migratory waterfowl by the acquisition of wetlands, and for other essential waterfowl habitat, and for other purposes", approved October 4, 1961 (16 U.S.C. 715k-3), is amended by striking out "September 30, 1986" and inserting in lieu thereof "September 30, 1988".

(b) REPAYMENT PROVISIONS.—Section 3 of such Act (16 U.S.C. 715k-5) is amended by striking out the first three sentences.

National Wildlife Refuge System.

TITLE II—REVENUES FOR REFUGE OPERATIONS AND THE MIGRATORY BIRD CONSERVATION FUND

16 USC 3911.

SEC. 201. SALE OF ADMISSION PERMIT AT CERTAIN REFUGE UNITS.

(a) SALE OF ADMISSION PERMITS.—(1) Notwithstanding the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 460l-4 et seq.), in order to provide additional revenues for the conservation of wetland resources of the Nation and for the operation and maintenance of refuges—

(A) the Secretary of the Interior may, at units of the National Wildlife Refuge System designated by the Secretary under paragraph (2)—

(i) charge fees for admission permits;

(ii) sell Golden Eagle passports and Golden Age passports;

(iii) issue at no charge lifetime admission permits as authorized in section 4(a)(5) of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 460l-4—460l-11);

(B) the amounts collected by the Secretary as a result of the activities described in subparagraph (A) shall be distributed as provided in subsection (c).

(2) The Secretary shall designate a unit of the National Wildlife Refuge System for purposes of this Act if the Secretary determines, with respect to such unit, that—

(A) The level of visitation for recreational purposes is high enough to justify the collection of fees for admission permits for economic reasons.

(B) There is a practical mechanism in existence for implementing and operating a system of collecting fees for admission permits.

(C) Imposition of a fee for admission permits is not likely to result in undue economic hardship for a significant number of visitors to the unit.

(b) EXCEPTIONS.—(1) The Secretary may not require an admission permit under subsection (a)(1) for entry by a person into a designated unit if such person is the holder of—

(A) a valid migratory bird hunting and conservation stamp issued under section 2 of the Act of March 16, 1934 (16 U.S.C. 718b) (commonly known as the Duck Stamp Act);

(B) a valid Golden Eagle Passport issued under section 4(a)(1) of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 460l-6a(a)(1));

(C) a valid Golden Age Passport issued under section 4(a)(4) of such Act; or

(D) a valid lifetime admission permit as authorized in section 4(a)(5) of such Act.

(2) Permits for a single visit to any designated unit shall be made available by the Secretary of the Interior for a reasonable fee, but not to exceed $3 for individuals or $7.50 per vehicle. For purposes of this subsection, the term "single visit" means a more or less continuous stay within a designated unit by a person or group described in subsection (d). Payment of a single visit fee and issuance of a single visit permit shall authorize exits from and re-entries to a single designated unit for a period of from one to fifteen days. Such period shall be defined for each designated unit by the Secretary based upon a determination of the period of time reasonably and ordinarily necessary for such a single visit.

(3) Special admission permits for uses such as group activities may be issued in accordance with procedures and at fees established by the Secretary.

(4) A person may not be required to purchase an admission permit under subsection (a)(1) in order to travel by private noncommercial vehicle over any road or highway—

(A)(i) established as part of the National Federal Aid System (as defined in section 101 of title 23, United States Code); and

(ii) commonly used by the public as a means of travel between two places which are outside the designated unit; or

(B) to any land in which such person has a property interest if such land is within any designated unit.

(5) A person may not be required to purchase an admission permit under subsection (a)(1) for entrance or admission to a unit of the National Wildlife Refuge System created, expanded, or modified by Public Law 96-487.

16 USC 3101 note.

(c) DISTRIBUTION OF AMOUNTS COLLECTED.—Amounts collected from the sale of admission permits under this section and from fees collected at any unit of the National Wildlife Refuge System under subsections (b) and (c) of section 4 of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 460l-6a (b), (c)) shall be distributed as follows:

(A) Thirty per centum shall be available to the Secretary of the Interior until expended. The Secretary shall use such amount—

(i) first, to defray the cost of collection;

(ii) next, for operation and maintenance of the collecting unit; and

(iii) next, for operation and maintenance of all units within the National Wildlife Refuge System, except those units created, expanded, or modified by Public Law 96-487.

(B) Seventy percent shall be deposited into the migratory bird conservation fund established under section 4 of the Act of March 16, 1934 (16 U.S.C. 718d).

(d) PERSONS ACCOMPANYING PERMITTEES.—A person who holds a stamp, passport, or permit described in subsection (b) shall be entitled to general entrance into any designated unit, along with—

(1) any persons accompanying such person in a single, private, noncommercial vehicle; or

(2) where entry to the area is by any means other than single, private, noncommercial vehicle, the person and any accompanying spouse, children, or parents.

(e) RESTRICTIONS.—A permit issued under this section is nontransferable. Such a permit may not authorize any uses for

which fees are charged under the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 460l-4 et seq.).

(f) ESTABLISHMENT OF FEES; POSTING OF NOTICES.—(1) All fees established pursuant to this section shall be fair and equitable. In establishing such fees, the Secretary shall consider the following:

(A) The direct and indirect cost to the Government.

(B) The benefits to the permit holder.

(C) The public policy or interest served.

(D) The comparable fees charged by non-Federal public agencies.

(E) The economic and administrative feasibility of fee collection and other pertinent factors.

(2) The Secretary shall require that notice that a fee has been established under this section—

(A) be prominently posted at each designated unit and at appropriate locations in each such unit; and

(B) to the extent practicable, be included in publications distributed at such units.

(g) VOLUNTEERS.—The Director of the United States Fish and Wildlife Service may accept services of volunteers to sell admission permits under this section or to sell Golden Eagle and Golden Age Passports or Migratory Bird Hunting and Conservation Stamps. The Director may use funds appropriated or otherwise made available to the Service to cover the cost of any surety bond that may be required of a volunteer performing the services authorized under this subsection.

SEC. 202. PRICE OF MIGRATORY BIRD HUNTING AND CONSERVATION STAMP.

16 USC 718b.

Section 2(b) of the Act of March 16, 1934 (16 U.S.C. 718(b)), is amended in the first sentence—

(1) by striking out "$7.50" and inserting in lieu thereof "$10.00";

(2) by striking out "any hunting year" and inserting in lieu thereof "hunting years 1987 and 1988, $12.50 for hunting years 1989 and 1990, and $15.00 for each hunting year thereafter,"; and

(3) by inserting "available for obligation and" before "attributable".

16 USC 3912.

SEC. 203. TRANSFERS TO MIGRATORY BIRD CONSERVATION FUND.

Notwithstanding any other provision of law, an amount equal to the amount of all import duties collected on arms and ammunition, as specified in subpart A of part 5 of schedule 7 of the Tariff Schedules of the United States, shall, beginning with the next fiscal year quarter after the date of enactment of this Act, be paid quarterly into the migratory bird conservation fund established under section 4 of the Act of March 16, 1934 (16 U.S.C. 718d).

19 USC 1202.

TITLE III—STATE AND FEDERAL WETLAND ACQUISITION

16 USC 3921. State and local governments.

SEC. 301. NATIONAL WETLANDS PRIORITY CONSERVATION PLAN.

(a) IN GENERAL.—The Secretary shall establish, and periodically review and revise, a national wetlands priority conservation plan which shall specify, on a region-by-region basis or other basis considered appropriate by the Secretary, the types of wetlands and interests in wetlands which should be given priority with respect to Federal and State acquisition.

(b) CONSULTATION.—The Secretary shall establish the plan required by subsection (a) after consultation with—

(1) the Administrator of the Environmental Protection Agency;

(2) the Secretary of Commerce;

(3) the Secretary of Agriculture; and

(4) (the chief executive officer of) each State.

State and local governments.

(c) FACTORS TO BE CONSIDERED.—The Secretary, in establishing the plan required by subsection (a), shall consider—

(1) the estimated proportion remaining of the respective types of wetlands which existed at the time of European settlement;

(2) the estimated current rate of loss and the threat of future losses of the respective types of wetlands; and

(3) the contributions of the respective types of wetlands to—

(A) wildlife, including endangered and threatened species, migratory birds, and resident species;

(B) commercial and sport fisheries;

(C) surface and ground water quality and quantity, and flood control;

(D) outdoor recreation; and

(E) other areas or concerns the Secretary considers appropriate.

Fish and fishing. Water. Flood control.

SEC. 302. REMOVAL OF RESTRICTION ON ACQUISITION.

Section 7(a)(1) of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 460l-9(a)(1)) is amended by striking out "national wildlife refuge areas under section 7(a)(5) of the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(5)) except migratory waterfowl areas which are authorized to be acquired by the Migratory Bird Conservation Act of 1929, as amended (16 U.S.C. 715-715s)" and inserting in lieu thereof "national wildlife refuge areas under section 7(a)(4) of the Fish and Wildlife Act of 1956 (16 U.S.C. 742f(a)(4)) and wetlands acquired under section 304 of the Emergency Wetlands Resources Act of 1986".

SEC. 303. INCLUSION OF WETLANDS IN COMPREHENSIVE STATEWIDE OUTDOOR RECREATION PLANS.

Section 6 of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 460l-8) is amended—

(1) in subsection (d), by adding at the end thereof the following new paragraph:

"For fiscal year 1988 and thereafter each comprehensive statewide outdoor recreation plan shall specifically address wetlands within that State as an important outdoor recreation resource as a prerequisite to approval, except that a revised comprehensive statewide outdoor recreation plan shall not be required by the Secretary, if a State submits, and the Secretary, acting through the Director of the National Park Service, approves, as a part of and as an addendum to the existing comprehensive statewide outdoor recreation plan, a wetlands priority plan developed in consultation with the State agency with responsibility for fish and wildlife resources and consistent with the national wetlands priority conservation plan developed under section 301 of the Emergency Wetlands Resources Act or, if such national plan has not been completed, consistent with the provisions of that section";

(2) in subsection (e)(1), by inserting, in the first sentence thereof, after "For the acquisition of land, waters, or interests in land or waters" the following: ", or wetland areas and interests therein as identified in the wetlands provisions of the comprehensive plan"; and

(3) in subsection (f)(3), by adding at the end thereof the following: ": *Provided*, That wetland areas and interests therein as identified in the wetlands provisions of the comprehensive plan and proposed to be acquired as suitable replacement property within that same State that is otherwise acceptable to the Secretary, acting through the Director of the National Park Service, shall be considered to be of reasonably equivalent usefulness with the property proposed for conversion.".

SEC. 304. FEDERAL ACQUISITION.

16 USC 3922.

The Secretary is authorized to purchase wetlands or interests in wetlands, which are not acquired under the authority of the Migratory Bird Conservation Act of 1929 (16 U.S.C. 715–715s), consistent with the wetlands priority conservation plan established under section 301.

16 USC 3923.
Farms and farming.

SEC. 305. RESTRICTION ON USE OF EMINENT DOMAIN IN ACQUISITIONS.

The powers of condemnation or eminent domain shall not be used in the acquisition of wetlands under any provision of this Act where such wetlands have been constructed for the purpose of farming or ranching, or result from conservation activities associated with farming or ranching.

TITLE IV—WETLANDS INVENTORY AND TREND ANALYSIS

SEC. 401. NATIONAL WETLANDS INVENTORY PROJECT.

16 USC 3931.

(a) IN GENERAL.—The Secretary, acting through the Director of the United States Fish and Wildlife Service, shall continue the National Wetlands Inventory Project and shall—

(1) produce, by September 30, 1988, National Wetlands Inventory maps for the areas that have been identified by the Service as top priorities for mapping, including—

(A) the entire coastal zone of the United States;

(B) floodplains of major rivers; and

(C) the Prairie Pothole region;

(2) produce, by September 30, 1998, National Wetlands Inventory maps for those portions of the contiguous United States for which final maps have not been produced earlier;

Alaska.

(3) produce, as soon as practicable, National Wetlands Inventory maps for Alaska and other noncontiguous portions of the United States; and

Reports.

(4) produce, by September 30, 1990, and at ten-year intervals thereafter, reports to update and improve the information contained in the report dated September 1982 and entitled "Status and Trends of Wetlands and Deepwater Habitat in the Coterminous United States, 1950's to 1970's".

State and local governments.

(b) NOTICE.—The Secretary shall notify the appropriate State and local units of government at such time as he proposes to begin map preparation under subsection (a) in an area. Such notice shall include, but is not limited to, the identification of the area to be mapped, the proposed schedule for completion, and the identification of a source for further information.

SEC. 402. REPORTS TO CONGRESS.

16 USC 3932.

(a) IN GENERAL.—The Secretary, in consultation and cooperation with the Secretary of Agriculture, shall prepare and submit to the committees—

(1) by March 30, 1987, a report regarding the status, condition, and trends of wetlands in the lower Mississippi alluvial plain and the prairie pothole regions of the United States; and

(2) by September 30, 1987, a report regarding trends of wetlands in all other areas of the United States.

(b) CONTENTS OF REPORTS.—The reports required under subsection (a) shall contain—

(1) an analysis of the factors responsible for wetlands destruction, degradation, protection and enhancement;

(2) a compilation and analysis of Federal statutory and regulatory mechanisms, including expenditures, financial assistance, and tax provisions which— Taxes.

(A) induce wetlands destruction or degradation; or

(B) protect or enhance wetlands;

(3) a compilation and analysis of Federal expenditures resulting from wetlands destruction, degradation, protection or enhancement;

(4) an analysis of public and private patterns of ownership of wetlands;

(5) an analysis of the environmental and economic impact of eliminating or restricting future Federal expenditures and financial assistance, whether direct or indirect, which have the effect of encouraging the destruction, degradation, protection or enhancement of wetlands, including—

(A) public works expenditures;

(B) assistance programs such as price support programs, commodity loans and purchase programs and disaster assistance programs; Loans.

(C) soil conservation programs; and

(D) certain income tax provisions; Taxes.

(6) an analysis of the environmental and economic impact of failure to restrict future Federal expenditures, financial assistance, and tax provisions which have the effect of encouraging the destruction, degradation, protection or enhancement of wetlands, including— Taxes.

(A) assistance for normal silviculture activity (such as plowing, seeding, planting, cultivating, minor drainage, or harvesting for the production of fiber or forest products); Agriculture and agricultural commodities.

(B) Federal expenditures required incident to studies, evaluations, design, construction, operation, maintenance, or rehabilitation of Federal water resource development activities, including channel improvements; Forests and forest products.

(C) the commodity loans and purchases program and cotton, feed grain, wheat, and rice production stabilization programs administered by the Department of Agriculture; and Loans. Agriculture and agricultural commodities.

(D) Federal expenditures for the construction of publicly owned or publicly operated highways, roads, structures, or facilities that are essential links in a larger network or system; and Highways.

(7) recommendations for the conservation of wetlands resources based on an evaluation and comparison of all manage- State and local governments.

ment alternatives, and combinations of management alternatives, such as State and local actions, Federal actions, and initiatives by private organizations and individuals.

TITLE V—MISCELLANEOUS PROVISIONS

16 USC 668dd note.

SEC. 501. MIGRATORY BIRD TREATY ACT.

Section 6(b) of the Act of July 3, 1918 (16 U.S.C. 707(b)) is amended by deleting "shall" the first place it appears therein and by inserting in lieu thereof "shall knowingly".

SEC. 502. BAYOU SAUVAGE URBAN NATIONAL WILDLIFE REFUGE.

(a) PURPOSES OF REFUGE.—The purposes of the Bayou Sauvage Urban National Wildlife Refuge are—

(1) to enhance the populations of migratory, shore, and wading birds within the refuge;

(2) to encourage natural diversity of fish and wildlife species within the refuge;

(3) to protect the endangered and threatened species and otherwise to provide for the conservation and management of fish and wildlife within the refuge;

(4) to fulfill the international treaty obligations of the United States respecting fish and wildlife;

(5) to protect the archeological resources of the refuge;

(6) to provide opportunities for scientific research and environmental education, with emphasis being given to the ecological and other values of wetlands; and

(7) to provide opportunities for fish and wildlife oriented public uses and recreation in an urban setting.

(b) ACQUISITION AND ESTABLISHMENT OF REFUGE.—

Louisiana.

(1) ACQUISITION.—Within four years after the effective date of this section the Secretary of the Interior (hereinafter in this Act referred to as the "Secretary") shall acquire the approximately nineteen thousand acres of lands and waters, and interests therein, located in Orleans Parish, Louisiana, that are depicted on the map entitled "Bayou Sauvage Urban National Wildlife Refuge", dated September 15, 1986, and on file at the United States Fish and Wildlife Service, Department of the Interior. The lands and waters, and interests therein, acquired under this paragraph comprise the Bayou Sauvage Urban National Wildlife Refuge. The acquisition shall be made through donation, purchase with donated or appropriated funds, or exchange, or through any combination of the foregoing.

Federal Register, publication.

(2) ESTABLISHMENT.—At such time as sufficient lands and waters, and interests therein, have been acquired under paragraph (1) to constitute an initial area that can be administered to carry out the purposes set forth in subsection (a), the Secretary shall establish the Bayou Sauvage Urban National Wildlife Refuge by publication of notice to that effect in the Federal Register.

(3) BOUNDARY ADJUSTMENTS.—The Secretary may make such adjustments with respect to the boundary of the Bayou Sauvage Urban National Wildlife Refuge as may be necessary to facilitate the acquisition of lands and waters, and interests therein, for the refuge and to facilitate the administration of the refuge.

(c) ADMINISTRATION OF REFUGE.—The Secretary shall administer all lands and waters, and interests therein, acquired under subsection (b) in accordance with the provisions of the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd–668ee) to carry out the purposes set forth in subsection (a). The Secretary may utilize such additional statutory authority as may be available to him for the conservation and development of wildlife and natural resources, the development of outdoor recreation opportunities, and interpretive environmental education as he considers appropriate to carry out such purposes. Within two years after the effective date of this section, the Secretary shall complete a master plan for the development of the Bayou Sauvage Urban National Wildlife Refuge.

(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Department of the Interior—

(1) from funds not otherwise appropriated from the Land and Water Conservation Fund, such sums as may be necessary for the acquisition of lands and waters, and interests therein, for the Bayou Sauvage Urban National Wildlife Refuge; and

(2) $5,000,000 for the development of the refuge.

The moneys appropriated under subparagraphs (1) and (2) shall remain available until expended.

(e) EFFECTIVE DATE.—This section takes effect on the later of the date of enactment of this Act or October 1, 1986.

Approved November 10, 1986.

LEGISLATIVE HISTORY—S. 740 (H.R. 1203):

HOUSE REPORTS: No. 99-86, Pt. 1 accompanying H.R. 1203 (Comm. on Merchant Marine and Fisheries).

SENATE REPORTS: No. 99-445 (Comm. on Environment and Public Works).

CONGRESSIONAL RECORD, Vol. 132 (1986):

Oct. 3, considered and passed Senate.

Oct. 14, considered and passed House.

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